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A Real Estate Crowdfunding Model for Social Impact: The Alley Flat Initiative in Austin, Texas

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A Real Estate Crowdfunding Model for Social Impact: The Alley Flat Initiative in Austin, Texas

by

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Thesis

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

of the Requirements

for the Degrees of

Master of Science in Community and Regional Planning

and

Master of Science in Sustainable Design

The University of Texas at Austin

May 2016

Dedication

To my family and friends who have been the source of endurance and inspiration during more than 8 years of education and adventures in the US and abroad.

To Yure for enduring over two years of struggles and learning, for listening to my "crazy" ideas and helping me find the path to putting them in writing form.

To Venezuela, my true home, so that one day I may be able to contribute to the rebuilding of the country and put my knowledge and experience of these years far from you to action in places where they matter the most.

Acknowledgements

Many thanks to my professors and advisors at Instituto Cumbres de Caracas, Northeastern University and The University of Texas at Austin, who have transferred knowledge and experiences that I will carry with me for the rest of my life. I hope my actions and achievements live up to the level of instruction that all of you have provided.

Special thanks to Jake and Kristine for finding time in their busy schedules to provide me with the invaluable feedback and corrections without which this thesis would not be possible.

Special thanks to Nicole Joslin at Austin Community Design & Development Center (ACCDC) for sharing her knowledge on the topic of Alley Flats and being a continuous source of feedback to my work.

Special gratitude to Dr. Steven Moore, Dr. Barbara Wilson and Sarah Wu for being crucial guides in my discovery of a broader understanding of sustainability and its relationship to issues of social equity, for my time at the 2014 Public Interest Design Program and Design Futures Student Forum in 2015.

Abstract

A Real Estate Crowdfunding Model for Social Impact: The Alley Flat Initiative in Austin, Texas

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The signing of the Jumpstart Our Businesses (JOBS) Act on April 5th, 2012 has unleashed the potential of crowdfunding for private ventures in the US. The changes on regulation imposed by the JOBS Act and the development of online platforms for crowdfunding have revealed the potential of crowdfunding as an alternative funding mechanism for projects in diverse industries, including real estate. The real estate crowdfunding sector will continue to grow, especially since the implementation of Title III of the Jobs Act in October 2015, which allows for non-accredited investors to participate in the equity crowdfunding industry.

This research project studies the potential of real estate crowdfunding as an alternative financing option for projects related to the equitable and sustainable development of urban communities. Specifically, the study is centered on the financing of "reasonably affordable" rental ADUs on legacy homeowner properties in East Austin – a housing infill model proposed by The Alley Flat Initiative. City of Austin ordinances promoting the development of ADUs, approved in November 2015, and an affordability crisis connected to rapid growth of the city make the study of financing alternatives for affordable ADUs relevant and necessary.

Findings reveal that the real estate equity and peer-to-peer lending crowdfunding models, at the time of study, do not offer a convincing alternative for legacy homeowners to pursue the development of ADUs in their properties. Major limitations stand in the way of a crowdfunded Alley Flat project. However, the research presents recommendations that could contribute to more attainable models of crowdfunding financing for individual homeowners.

Relevant terms: Alley Flat Initiative (AFI), Auxiliary Dwelling Units (ADU), crowdfunding, crowdlending, peer-to-peer lending, real estate, alternative finance, affordable housing, housing finance.

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INTRODUCTION: RESEARCH DESIGN

RESEARCH QUESTION

What are the potential and limitations of real estate crowdfunding as an alternative financing method for promoting the development of affordable accessory dwelling units (ADUs) on legacy homeowner properties in neighborhoods of East Austin, Texas?

SECONDARY RESEARCH QUESTIONS

How do federal and municipal regulations impact crowdsourcing as a development tool and ADUs as an affordable housing option?

What are the key models and primary characteristics of the real estate crowdfunding market?

How should affordable ADUs in Austin take advantage of crowdfunding as an alternative financial mechanism for promoting affordable housing?

PROBLEM STATEMENT AND RELEVANCE

Auxiliary dwelling units (ADUs) are known by many names: granny flats, in-law unit, *casita*, backyard cottages, secondary dwelling units (SDU), and carriage houses, among many others. In essence, ADUs are a form of small, self-contained urban infill housing, and can reach up to 1,100 sq ft in area (City of Austin, Ordinance No. 20151119-080). ADUs share a land parcel with yet function independently from a larger single-family unit. In November 2015, City of Austin loosened its regulations, which previously limited the development of ADUs within city limits to an area of 850 sq ft. Promoters of the new ordinances highlighted, among other benefits, ADUs as a means of catalyzing housing density close to the city core and increasing affordable housing stock. Despite these policy advances, to date no incentive programs are in place to guarantee affordable rents on existing or future ADUs.

The Alley Flat Initiative (AFI), a joint collaboration among the University of Texas Center for Sustainable Development (CSD), the Guadalupe Neighborhood Development Corporation (GNDC), and the Austin Community Design and Development Center (ACDDC), has been developing a model for ADU development concerned with social equity for renters and owners since 2007. AFI conceives of ADU development as an opportunity for lower-income families, historically residing in neighborhoods close to Downtown Austin, to secure extra income and accommodate new housing needs as family dynamics change.

In a city with extreme population growth over the past few years, affordability in Austin has become a pressing issue. Neighborhoods surrounding downtown, especially those where working class and minority population have historically resided, have seen great changes in housing cost and composition of communities. East Austin neighborhoods in particular became the home to many families that, for generations, have lived and worked in the city. Rising cost of living for these legacy homeowners can be mitigated by extra rental income stream from an ADU on their properties. Throughout the

research, legacy homeowners are defined as families that have been long-time residents of urban neighborhoods in Austin. More specifically, the study of legacy homeowners in Austin for this study focuses in the neighborhoods of Chestnut, Rosewood, Holly and East Cesar Chavez, a more detailed definition of the term can be found in the glossary.

AFI projects, then, enable families to add value to their property and remain in their neighborhoods. The AFI program does this by requiring landlord-owners to rent ADUs according to the affordability measures set by City of Austin's Safe, Mixed Income, Accessible, Reasonably Priced, and Transit Oriented (S.M.A.R.T) Housing program, designed to promote housing affordability in the city's core. The outcome of the AFI program is twofold: it increases housing affordability for landlord-homeowners and for ADU tenants.

Financing the construction of an ADU in Austin is not easy for a property owner who already struggles with the affordability of his or her property. Traditional lending mechanisms do not appropriately recognize ADUs when assessing property value. In addition, property owners with affordability issues are not likely to be in a position where their personal finance or property equity will pre-qualify them relative to traditional lending approval standards.

The City of Austin's loosening of regulations around the development of ADUs is forecast to increase the number of ADUs developed in the permitted areas. Under current financing structures, however, this increase will likely to be led by market-driven development that takes better advantage and maximizes the benefits of the new regulations. Real estate developers and property owners with enough equity to access traditional lending programs will therefore lead the development of ADUs. As a result, their units are not likely to be envisioned as part of a comprehensive effort to increase Austin's housing affordability.

This study explores the potential of real estate equity crowdfunding as an alternative mechanism for addressing the financing access gap for property owners who do not qualify for traditional lending structures. **This research is relevant because it**

addresses issues of social equity for long-time residents and homeowners with limited income who are being forced by market dynamics to leave their communities and relocate. The research embraces the AFI model for the potential social equity outcomes of Alley Flats: these types of ADUs built on legacy homeowner properties service the preservation of communities and provide affordable housing stock in the city's core. The promise of the AFI is tied to alleviating the financial stress a legacy homeowner would have to incur in order to build an ADU in his or her property by providing discounted design services and expedited permitting processes. The limited number of Alley Flats built to date suggests that financing tools and programs to encourage the building of ADUs under the AFI model are not yet in place.

The financial burdens associated with building an ADU and limited access to traditional lending tools by legacy homeowners are important factors limiting the applicability of the AFI model at its fullest. Without appropriate financing tools and programs aimed at legacy homeowners to guarantee housing affordability for property owners and renters alike, the AFI model will not become commonplace in Austin. The results of this research demonstrate that equity and peer-to-peer lending crowdfunding models have no potential impact at becoming tools for addressing the issue of financing ADUs under the AFI model—at least not without complementary policies or programs that incentivize and promote this ADU development model.

METHODOLOGICAL APPROACH

A pragmatic, mixed-methods research design guides this study. A pragmatic approach to research calls for implementing the method or methods that appear to be most appropriate to answer the research question (Groat et al., 2002). The research project seeks to judge the degree of change by which crowdfunding in real estate can stimulate the development of more affordable housing urban infill projects, in the form of ADUs under the AFI model. In doing so, the researcher acknowledges that context varies: conditions are always subject to change and reality is imperfectly apprehensible. Just as conditions change, the tools to measure the variables affecting realities must also adapt.

The mixed methods approach to research allows for empirical data to be obtained by merging qualitative and quantitative methods. This research project combines elements from a literature review with field research, data analysis, and opinions and experiences gathered from stakeholders in the development of ADU units in Austin.

- In Chapter 1, a literature review of relevant terms related to real estate development, crowdfunding, and auxiliary dwelling units in Austin are presented and defined.
- In Chapter 2, due to the lack of relevant data available for such an emerging financing product, the data presented was gathered from three different real estate crowdfunding platforms. Data from publicly available investment products in each crowdfunding platform was manually recorded. The surveying of existing products in these platforms allowed for the creation of a database containing relevant fields of information related to the products encountered.
- In Chapter 3, the assumptions for the financing modeling of an Alley Flat development are presented. Assumptions are based on hard data from existing databases and from knowledge shared by relevant stakeholders in (1) the AFI model, (2) experts in the local real estate lending market and (3) those involved in the real estate crowdfunding industry. Methods of engagement with stakeholders varied from

informal in-person and telephone interviews and through email exchanges. Literature and expert sources complement each other and allow for triangulation of sources (Groat and Wang, 2002). While existing information sources shaped the study's initial assumptions, consulting with those involved in the local real estate development industry provides valuable perspectives that have adjusted those assumptions.

- In Chapter 4, the study's key assumptions are entered into a financing proforma for the development of an ADU under the AFI model. Assumptions for the crowdfunding finance scenario are based upon data presented in Chapter 2 and Chapter 3. The results of the financing scenario are analyzed beyond their quantitative outcomes, and include qualitative recommendations for programs and policies that could increase the potential of crowdfunding as a tool for the development of ADUs under the AFI..
- Both crowdfunding and ADUs are relatively recent concepts in crowdfunding finance and residential real estate development. During the course of research significant changes in matters affecting these subjects, in regards to the crowdfunding industry in particular, influenced the initial research design. For instance, once the platform surveying was completed, regulations ruling over equity crowdfunding allowed for non-accredited investors to participate in these products. With this change, many platforms began allowing public access to the information on their investment products. Before regulatory changes, only certain platforms allowed for public access to a limited number of their offerings. In consequence, the analysis of platforms in this research was limited by data accessibility. Further changes in policies and regulations over the crowdfunding industry and ADU development are to be expected and the findings of this research must be reinterpreted in the light of future conditions.

The study recognizes the existing dominant paradigms in the real estate development industry for urban areas. At the same time, it recognizes the need for more and better public spaces, buildings, and services in urban areas – focusing on ADU units

in the context of Austin, Texas. Real estate crowdfunding is conceived as a paradigm that challenges the dominant methodologies and interests behind conventional funding for real estate development.

In the study's interest of influencing design and development practices, it embraces the notion of Thomas Kuhn's paradigm shifts in *The Structure of Scientific Revolutions* (1962). Real estate equity crowdfunding is conceived as a factor contributing to a paradigm shift within the interests driving real estate development in urban America – from private and ambiguous interests towards a more grassroots and transparent public-private approach to development. In other words, the study considers if real estate crowdfunding, as part of a shared economy, alters the status quo of real estate development and shapes it according to the investment preferences of those choosing to crowd fund specific product types. A real estate shared economy is assumed to result in more socially just and equity-driven investment industry—the interests of local communities could drive, to a certain degree, real estate development. Crowdfunding models that finance real estate development can potentially create feedback loops between the demand of development products by the community and the industry's supply of them. The community—the "crowd" itself—funds projects. In turn, a more sustainable real estate economy is created, possibly one with a stronger linkage to social equity outcomes—assuming that local demand and investment interests will favor such social outcomes in the first place. While, in concept, the shared economy of crowdfunding and its promotion of community development is promising (Davies, 2015), the findings of this research call into question the promise of real estate crowdfunding to be a driving force for affordable housing development, specifically in the form of ad-hoc development of Alley Flats in Austin, Texas.

CHAPTER 1: LITERATURE REVIEW

FINANCE ECONOMICS

In order to understand the implications of real estate as a driver of economic development in a community, one must first generally understand the components and concepts behind financial economics. Financial economics can be defined as a discipline within economics dedicated to the study and analysis of capital markets. Capital markets are made up of assets. Assets hold potential future benefits measured in monetary terms. The content of this brief overview on finance economics relies heavily on the work of Geltner and Miller (2001) and is relevant in order to place the crowdfunding investment market for real estate in context relative to existing investment products in the industry.

Capital markets would not function without investors. They are the fuel of the market: investors buy and sell assets. Geltner and Miller (2001) highlight the importance of investor heterogeneity in financial economics. In short, investor heterogeneity is based upon the principle establishing that because investors vary so much in their investment objectives and expected returns, the market flourishes. The demand raised by the diversity of expectations is to be served by the supply of many different investment products that the market can offer.

The market can offer many different kinds of investment products and vehicles. The main factors differentiating one investment product from another one are risk, liquidity and capital constraint. Risk can be defined as the variation and unpredictability of the performance of an asset. Liquidity, on the other hand, represents the limitation on the ability to sell an asset quickly at its full value. The capital constraint is a limitation related to the magnitude of the investment – how much capital is needed and whether it is an attainable investment by the measure of an investor's available capital.

Other factors related to the investor can influence the appeal and performance of an investment. Investors can have either growth or income objectives (Geltner and Miller, 2001). The difference between growth and income objectives is in the gain expectation:

growth is related to long-tem gain and income to shorter-term gain. Investor-related factors in the performance and appeal of an investment product also include the expertise of the investor and the investment's management burden. In other words, performance is linked to the investor's knowledge about the capital market and how much work the investment will require from the investor. Investment size is also an important factor to consider, shaped by the kind of capital the investor is able and willing to contribute.

The heterogeneity of investors is not only informed by the diverse factors affecting the performance of an investment product. The investment universe allows for a variety of asset types, which, in turn, attract the attention of specific investors who align asset fits to their own interests and objectives. Four major assets are available in the investment universe: cash (properly known as Treasury Bills), stocks, bonds and real estate (Geltner and Miller, 2001).

Traditionally, stocks and bonds have been the mainstream asset typologies in the investment and corporate finance sectors in the US during the 19th century (Geltner and Miller, 2001). In recent years, additional layers and investment product types have been developed based on the main four asset types. Real estate investment has not been absent from the development of new investment products within the traditional asset types. In fact, real estate investment has evolved to become one of the most interesting and complex markets in the last decades. The real estate crowdfunding sector, then, is one segment of emerging investment products available to investors interested in the real estate investment industry.

REAL ESTATE INVESTMENT INDUSTRY

When compared to the other major asset classes, real estate can be considered similar in returns performance and investment risks of a long-term bond. Different from bonds, real estate generally provides good growth and investment inflation protection (Geltner and Miller, 2001) because the performance of real estate can fluctuate in reaction to market forces and economic trends. While returns for real estate investment are not as high as the stock market, real estate investments are considerably less risky

than stock market investments. In relationship to the other three major asset classes, real estate can be considered a conservative, low risk investment with intermediate returns and good long-term growth and liquidity.

One major difference between real estate assets and the other major asset classes is that the real estate market is backed up by real, built structures – buildings and properties. Other asset classes besides real estate are financial products devised by corporations and financial institutions based on underlying assets that are often intangible, unlike real estate assets. In effect, the physicality of assets that underlie real estate investments provides a degree of certainty to the real estate market compared to other asset classes.

The fact that real estate's underlying assets are built physical structures points to another unique feature of real estate as an asset class. Generally, other asset classes are traded in public markets; real estate is traded, however, in both the public and private market. The underlying assets and properties are traded in the private market, and real estate properties are exchanged among owners or investment groups. As a result, only those investors with enough capital to participate in commercial real estate deals can directly participate in the private real estate market. Traditionally, access to the real estate market, particularly in the form of commercial real estate ownership, was limited to those with enough capital, investment experience and management capacity.

Recent decades have witnessed a shift, whereby real estate's narrow access has been broadened by the evolution of publicly-traded real estate markets. A number of new financial products have enabled passive investors, those not interested in being deeply involved in the management of the underlying assets, to actively participate in the real estate investment industry. In many ways, the differences between the stock and real estate markets have been blurred by the development of these new financial products (Geltner and Miller, 2001). In Chapter 2, the analysis of real estate crowdfunding platforms will reveal how they provide opportunities for passive investors and ad-hoc real estate developers.

One example of a publicly traded real estate financial product are REITs (Real Estate Investment Trusts/Funds). REITs are equity investments. Large investing groups build up real estate portfolios with numerous and various property types and locations. REITs are sold on the public market, therefore, enabling small investors to buy shares of the portfolio. Another example of real estate public investment products are CMBS (Commercial Mortgage-backed Securities). Just like REITs, CMBS allow small investors to participate in the real estate investment industry. However, CMB's underlying assets are not properties, but debt issued on real estate developments. In peer-to-peer lending, also known as crowdlending, products, see Chapter 2, investors collectively fund loans for real-estate developers.

In the case of both investment products, investors are not required to directly participate in the management of the real estate underlying assets. Even more important, REITs are an example of how publicly-traded real estate products allow small investors to participate in and benefit from a market typically reserved for large investors. Equity investment in real estate "stocks", such as REITs and CMBs, is interesting due to the financial performance of underlying assets. Compared to real estate assets, which can be considered moderate risk assets, a corporation's stock values, and, therefore, its returns, are constantly fluctuating and dependent on a number of varying factors, which increase their risk profile. The financial projections of real estate properties are therefore more predictable and stable than those of traditional stock market assets. Very generally, the income and expenses of real estate properties follow anticipated middle to long-term cycles. These dynamics characterize investment in public market financial products by low to middle investment risks and moderate returns.

Not even the residential real estate crisis of 2007 radically affected REITs suggested by the fact that only one went bankrupt during that period (Grout, 2014). Generally speaking, whereas the performance of a tech company's stock depends upon the release and success of a groundbreaking device, or the decisions of its board of

directors, a real estate asset's expected financial performance depends on occupancy and the quality of property management.

Government policy and regulation changes can be directly linked to the diversification of the real estate investment industry into an increasingly publicly traded asset class. In the late 1980's and early 1990's, tax reforms allowing institutional investors to participate in the commercial real estate market permitted financial products such as REITs to surge and become a major real estate product. These dynamics had unprecedented effects, as never before in US history had there been large properties of commercial real estate transferred from private ownership to publicly traded real estate corporations (Geltner and Miller, 2001). The co-existence of a CMB market and the enactment of FIRREA (Financial Institutions Recovery and Enforcement Act) fanned such transfers. Established in 1989, FIRREA was designed to bail out the savings and loans industry from their greatest crisis by auctioning low performing commercial real estate projects linked to the savings and loans industry. In doing so, the Act resulted in the issuing of large numbers of commercial real estate properties and their respective debt to the public market. The JOBS Act may result in a similar democratization of the real estate investment market. The 2012 JOBS Act, with its parallel support for small business funding mechanisms, provides the regulatory framework for the rise of real estate crowdfunding as a growing asset class within the industry. By making real estate assets, be it via equity or peer lending platforms, crowdfunding is effectively providing all investors with access to platforms with opportunities to participate in the real estate investment market.

THE JOBS ACT

Recent regulation changes together with digital technology, namely the Internet, are the leading factors driving the evolution of new real estate financial products. On April 5th, 2012, the Jumpstart Our Businesses Act (JOBS Act) was voted into law by Congress and signed by President Barack Obama. Enacted to revise the regulatory framework around small businesses and funding mechanisms available to growing

companies, the JOBS Act has since,attracted much attention and discussion because of its core principles and consequent new regulations related to crowdfunding.

Owing to the implementation of rulings for Title III of the JOBS Act, as of October 30th, 2015 crowdfunding from accredited and non-accredited individuals became legal. Before Title III was passed, equity crowdfunding was largely limited to accredited investors only. Through the gradual implementation of new rules, local business, start-ups and entrepreneurs will be able to fund their enterprises and ideas by appealing to the general public - within certain parameters.

As the regulatory framework for Title III is undergoing implementation, online services are developing in order to provide platforms that foster exchange among entrepreneurs, innovators, and start-up capital. Another factor affecting the implementation of crowdfunding is state legislation. Through the design and implementation of Title III regulations, equity crowdfunding was enabled only by states, which in turn established exemptions within federal law to allow small businesses and entrepreneurs to tap into the equity crowdfunding sector (NASAA, 2015). According to the North American Securities Administration Association, as August 2015, twenty-one states had active equity crowdfunding exemptions, seven had exemptions soon to be implemented, eight had legislation pending, two were investigating, and only two states had voted against implementing state equity crowdfunding exemptions. At that time, only ten states had not engaged in the debate about enacting equity crowdfunding exemptions within state jurisdiction. Crowdfunding platforms have not been slow to catch-up to the legislative exemptions, and continuously boast intra-state deals and expand to become approved entities in states with equity crowdfunding legislation in place.

Before further discussing the implications of the JOBS Act on crowdfunding, first, it is important to define the term. Crowdfunding is defined as financial contributions from online investors, sponsors or donors to finance for-profit or non-profit initiatives or enterprises (Crowdsourcing 2011). Crowdfunding adopts four main types of funding models: donations, reward-based, equity, and lending. Considered the patron-models of

crowdfunding, donation and reward-based are philanthropic initiatives by individual investors in which no financial returns are expected. Alternatively, the last two types involve lending or investment in exchange for equity, profit sharing, or debt instruments.

Typically, social impact enterprises rely on crowdfunding in the form of donations through which investors fund an initiative without expecting future reward or return. Many arts and technology ventures have setup reward-based, sponsorship type crowdfunding models, such as those offered in Kickstarter or IndieGoGo. Reward-based crowdfunding sets funding milestones by which different rewards are assigned relative to the donated amount. Rewards include but are not limited to early prototypes of the product, special recognition, or credit upon project completion. Generally, a funding goal and campaign length are established prior to kicking off the effort. If the funding goal is not achieved, the capital is returned to the investors. Before the JOBS Act came into effect, businesses and organizations were limited to crowdfunding in the form of donations or reward-based campaigns.

Equity and debt-based crowdfunding are more complex financial mechanisms. Every platform offering equity and peer-to-peer lending does so under their own business models. In contrast to reward-based crowdfunding, investors in equity crowdfunding are given equity in the company or venture they are funding. By investing in equity, the investor owns a portion of the business or venture and will therefore perceive the returns or losses according to the asset's performance. Debt crowdfunding, peer-to-peer lending or crowdlending, all interchangeable terms, turns investors into lenders. Those interested in a venture thus provide debt financing to the organization in exchange for fixed payments over an established period of time.

Crowdfunding is one of the main funding mechanisms for small businesses and organizations being promoted by the Jumpstart Our Businesses Act. The US Securities and Exchange Commission (SEC) implemented Title II of the JOBS Act in September 2013 and in so doing opened the door for online platforms to begin experimenting with equity crowdfunding. After the implementation of Title II, the public use of fundraising,

including equity crowdfunding, became legal for accredited investors. Title II was the first stage of how the JOBS Act transformed crowdfunding as it is known and executed today. Before, participation in equity crowdfunding was limited to accredited investors, defined as individuals whose net worth, excluding the value of their primary residence, is equal or greater to US$1 million, or whose annual salary is worth $200,000 or more. Given that relatively few Americans fall within the socioeconomic measure of accredited investors: only about 8 million American households are eligible to access equity crowdsourcing (Dorff, 2014).

For these reasons, some non-accredited investor participation took place under Tittle II. Specifically, the Regulation A portion of the JOBS Act allows for non-accredited investor participation in projects under US$5 million. More importantly, the potential of non-accredited investor crowdfunding will be unleashed once Title III of the JOBS Act is implemented to its full effect and equity crowdfunding and crowdlending are legal across all of the US.

In order to protect investors from fraudulent ventures and to regulate the crowdfunding market, the SEC will replace accreditation with a number of safeguards for investors under Title III of the JOBS Act (Dorff, 2014) (Barnett, 2015). The investment restrictions for non-accredited investors and other related rules include:

- Regulations on non-accredited share of funding in an organization's funding mechanisms.
- Limits on individual's investment based on income and net worth.
    - Individuals whose annual income is less than $100,000 may invest at most $2,000 or five percent (5%) of their annual income or net worth per year—whichever is greater.
    - Individuals whose annual income is greater than $100,000 can invest up to 10% of their annual income.
- Investors must participate in crowdfunding through a broker or website.

- Significant disclosures are required from crowdfunding platforms to ensure transparency in market offerings.
- Startups and small businesses can crowdfund up to $1,000,000 per year (Barnett, 2015).

Regulations require online services and brokers to establish a number of filters and provisions to potential projects and ventures. In fact, many of the issues stalling the enactment of Titles III and IV of the JOBS Act owed to issues of disclosure and transparency. Many of the regulations that the JOBS Act redefines are a legacy of the SEC's creation following the 1920's and 1930's financial market collapse (Baneri, 2015). Baneri (2015) explains how other authors have argued that disclosure is not the main issue threatening the inexperienced, non-accredited investor shopping for exciting enterprises. For these authors, investment opportunities reliant on equity crowdfunding are likely to have been unsuccessful in finding funding through conventional channels. Therefore, projects seeking crowdfunders are most likely to be poor investment opportunities given that other, arguably more experienced, investors have bypassed them first.

These may be valid arguments against the quality of investment opportunities in the crowdfunding and crowdlending industry as a whole. At the same time, there is potential for crowdfunding and crowdlending as applied to the real estate industry to provide a different and unique perspective. Specifically, crowdfunding in real estate can serve as a tool for local investors to invest in local projects. Additionally, crowdfunding in real estate can offer financing to project typologies often excluded from traditional financing streams—such is the case of Maketto, a project introduced at the end of this chapter.

WHAT IS NEXT?

Despite the many concerns and criticism of policies initiated by the JOBS Act, crowdfunding, in its many forms, has grown to be an important sector in the financial investment industry. In recent years, crowdfunding has become a commonplace and

successful capital collection method for the arts and technology products. Digital technology, in the form of online crowdfunding platforms, plays a major role in the success of those seeking to reach out to the masses in hopes of funding their enterprises. Businesses and organizations are now able to bypass or complement typical funding sources, including banking, angel investors and venture capitalists, in order to maximize their funding sources. As regulations affecting crowdfunding equity and lending models increase the accessibility of these financing methods, we can expect the crowdfunding sector to strengthen its position in the investment industry as a whole.

The transition of equity and lending crowdfunding models into the real estate market has followed the footsteps of predecessors in the area, such as the arts and technology. One of the most notable early negotiations in the sector involved 85 independent investors buying a 15% stake of the Hard Rock Café Palm Springs in July 2014 for US$1.5 million (Grout, 2015)—evenly divided among almost $17,650 per investor. By that time, not long before the first SEC rulings on equity crowdfunding for accredited investors, the Wall Street Journal had reported crowdfunding to have raised US$135 million in debt and equity for owners and developers of real estate in the US (Simon and Brown, 2014).

The growth of the crowdfunding sector as a real estate financial product has not slowed since the SEC's first rulings on the JOBS Act. Massolution, a research, advisory and implementation firm specialized in crowdfunding, reports around US$1billion were raised during the 2013-2014 period (Grout, 2015). The same report estimated the growth to continue. Given these trends, the equity crowdfunding sector is expected to increase to around US$2.5 billion by the end of 2015 in the US alone. The projections in the Massolution 2015 Crowdfunding Industry Report predict that, by 2016, the crowdfunding sector, as a whole, will surpass the funding share of venture capital in the US (Barnett, 2015).

While Massolutions' projections are optimistic and highlight the potential of the crowdfunding sector, that crowdfunding is their area of expertise and an invested interest

emphasizes that figures must not be interpreted as final without verification. In that sense, projections from the World Bank appear to support Massolutions' projections on growth of the crowdfunding sector. The World Bank estimates the crowdfunding industry will contribute up to US$90 billion by 2020 to the global economy (Barnett, 2015). Other projections further support the expected growth of crowdfunding in the global economy. Infodev, the World Bank's global innovation and entrepreneurship program, estimates crowdfunding's share of the global economy to reach US$96 billion by 2025—almost double the share of global venture capital in 2014 (1.8 times to be more precise). While the figures include all four types of crowdfunding previously explained, they highlight the large-scale potential of small-scale investments. Beyond the United States, crowdsourcing has been successful in places like the Canada, United Kingdom, Italy, Sweden, Kenya, among many others.

The numerous online platforms that support crowdfunding, in all varieties, forms, and purposes, also evidence the growth of the sector. The case of real estate equity crowdfunding is no different. About 85 well-established, active, online services for real estate crowdfunding exist in the US (Grout, 2015). One can only expect the number to increase with the implementation of SEC rulings about non-accredited investors. Some of the best-known online services include: Fundrise LLC, Realty Mogul, Realty Shares, Crowd Streets, and Patch of Land. Fundrise alone boasts a 55,000+ network of members. Realty Mogul claims having raised more than US$80 million for financing 250+ properties.

Each of the platforms performs their own evaluation and due-diligence of incoming projects according to internally-established processes and standards. On average, platforms report to offer publicly between 3% and 5% of the projects they evaluate. Platforms may choose to invest in the projects themselves, proving their trust in the investment's potential—a practice for which Fundrise is notable. The next chapter will summarize the analysis of 167 projects from three different real estate crowdfunding platforms.

As of now, the performance of investments in the real estate equity crowdfunding market cannot be adequately evaluated. The real estate crowdfunding market has not been around for a long time, and returns are projected beyond its current age—most deals will expire in three to five years time. Even so, the scarce data available seems to support the argument for real estate crowdfunding as a relatively secure investment. Funding is relying, mostly, on debt products that are critical for real estate development. After all, debt is less risky, given that it is senior to equity payments. Seniority in real estate refers to the concept of Capital Stack and the order in which funding for a project is organized and the hierarchy of their payback. Massolution reports 75.7% of real estate crowdfunding as tied to debt, while 18.5% is equity-linked. Few projects are reported as problematic: only 2% of the 500 deals reported in 2014 by Massolution failed to achieve expected performance.

Real estate crowdfunding's incipient rise has attracted the attention of investors and developers alike, while not presenting overarching issues with existing investments. While only time will tell if this success holds, a number of factors may increase the interest and growth of the real estate sector—the first being the release of SEC rulings for non-accredited investors. Despite some allowances for non-accredited investors to participate prior to the Section III ruling, this participation was limited to projects under US$5 million by the JOBS Act. With rulings made public and put into place, the crowdfunding market will attract the attention of millions of Americans previously excluded from the equity crowdfunding market. Another factor is the application of SEC Regulation 5 by which foreign investors are allowed to participate in US-based investments—increasing potential investors to the market. The ultimate test of real estate equity's crowdfunding success will be the performance of the first wave of investments.

The argument for crowdfunding as an alternative financing system for ventures that fail to draw mainstream financial streams is mostly based on the assumption of a perfect market economy whereby information is perfect, transparent and democratic. In reality, the information of market economy is far from perfect, rendering the argument

about crowdfunding as an alternative to mainstream financial systems, as, at least partially, untrue. Mainstream financial sources and investors do not have access to all opportunities and ventures in the investment universe. They are also not absolutely knowledgeable about every industry. Even more importantly, even the savviest investors are not always right on their selection of assets. These conditions set up a counterpart to the vision presented by Baneri (2015) and, in fact, render crowdfunding as valuable and viable financial mechanism for unconventional projects and ventures.

Just like real estate investment has proven to be a more secure asset in other publicly traded financial economics products, ventures in equity crowdfunding with real estate as the underlying asset may prove to be a less risky and more tangible investment for accredited and non-accredited investors alike. Real estate is typically less dependent and attached to the market forces affecting other asset products such as the stock market. Real estate investment is inherently spatial and, as such, requires knowledge about the dynamics of particular places. Investors can evaluate the future performance of stock assets without needing to deeply understand the physical setting upon where the assets are deployed. On the other hand, someone interested in a real estate development is most likely knowledgeable about the character and dynamics of the project context and why it will be successful, or not, under those conditions. In this sense, who is better equipped to promote real estate development relative to the demand, needs and conditions of a place than area residents? Real estate crowdfunding would allow for community members to support the kind of development they deem necessary and perceive as being successful in the future.

Crowdfunding holds great potential for community interest and community demand-driven development not only because it relies in the collective knowledge of members but also because it challenges the regulatory framework and development goals of traditional real estate development practices. Traditional streams of financing for real estate are likely to be interested and, ultimately, favor larger projects with typical programs that are promoted by established real estate developers and organizations—

those where profit is most certain. Many times, these projects are large in scale and disconnected from the social milieu in which they are set. Projects like these can happen at the expense of smaller scale and infill development; threatening the character and overseeing the needs of the community. Assuming that community members will favor small-scale infill development, real estate crowdfunding could facilitate the consolidation of the social and financial capital required to support the development of community-driven and ad-hoc real estate.

NOT-FOR-PROFITS, HOUSING AND COMMUNITY DEVELOPMENT

Not-for-profits have traditionally been involved in developing and executing important public and social services that fall beyond the government's ability, reach and capacity. Theoretically, not-for-profits, through their work, earn their tax-exempt status because they perform a complimentary role to government social services and activities. The activities and projects not-for-profits engage in are beneficial to both government and society.

Despite their important role in extending and sometimes even improving the work of public entities, not-for-profit organizations are more often than not associated with poor financial organization and performance. As a result, the benefits not-for-profits provide to communities, and society, as a whole, are not easily measured—especially not financially and, for this reason, are often not remunerable. Even more, not-for-profits' financial sustenance is perceived by many to be secondary to their mission (Nichols and Trinh, 2010).

Community development encompasses those activities and processes by which local communities and their members work together in order to raise their standard of living (UNESCO, 1956). Community development includes organizing and providing services including social welfare, health services, education, and economic development, among others. The grassroots origin of community development focuses in the wellbeing of the community and directly relates to the work and mission of not-for-profits.

Nowadays, the development of affordable housing is commonly associated with not-for-profits but the reality is that affordable housing involves a broader spectrum of stakeholders and developers. The origins of community development are, in fact, tied to affordable housing too. The incentives and policies behind affordable housing, together with its social impact, have attracted not-for-profits since the late 1950's and 1960's. In fact, not-for-profit organizations are responsible for 15% of all affordable housing completed from 1960 to 1990 in the US (Brummel, 2009). Rachel Bratt (2007) estimates that of the 4.6 million units of subsidized housing units built up to 2007, close to one third of the total, about 1.5 million, can be attributed to not-for-profit developers and organizations. Because building housing alone did not accomplish the economic, social, environmental and cultural welfare goals to which not-for-profit organizations were committed, community development turned its attention to providing economic development and human services. The data also shows that not all-affordable housing, not even a majority can be attributed solely to not-for-profit organizations. Housing models such as the Alley Flat Initiative are an example of the promotion of alternative affordable housing types via ad-hoc community development.

Today, community development by not-for-profits involves a wide variety of areas beyond housing. While the social impact of not-for-profits has increased over the years, preconceptions about their financial self-sustenance and dependency on short-term funding has not changed significantly. To remain operative, as a result, not-for-profits are mostly dependent on their own ability to attract funds in order to finance their operations.

NOT-FOR-PROFITS AND CROWDFUNDING

The financial constraints for funding by which not-for-profits are regulated limit their financial self-sufficiency and regeneration. In order to retain their taxation benefits, the inurement prohibition impedes not-for-profit institutions from issuing stock under their name (Nichols and Trinh, 2010). This prohibition is the primary distinction between not-for-profit and for-profit organizations. Under the prohibition, not-for-profits are

banned from distributing profits from their operation among those who control the organization.

On the other hand, not-for-profits can, according to IRS rulings, create earned income activities (as long as they are related to their mission) and create strategic alliances with for-profit organizations. Successful not-for-profit organizations do take full advantage of these provisions: 75% of not-for-profits involved in community development expect to increase their self-generated income by 25%, and 73% of not-for-profits report having strategic allegiances with for-profit partners—63% of which were initiated by the not-for-profit counterpart (Nichols and Trinh, 2010). Many not-for-profit organizations have turned to donation and reward-based crowdfunding sites in order to raise funds and promote their work.

The financial self-sufficiency and regeneration of not-for-profits involved in community development, then, depends in great part on the creative and proactive diligence to craft funding mechanisms that comply with IRS regulations and guarantee, even further, the social impact of the organization. Equity crowdfunding does not appear to be a viable financing alternative for not-for-profits alone to pursue. Specifically, they are limited by the previously explained inurement prohibition ruling over their tax-exempt provisions. However, with the recent tendency for not-for-profit and for-profit to create partnerships, instruments could be crafted for enabling the use of equity crowdfunding in real state projects for community development.

On one hand, donation or reward-based crowdfunding represent a familiar funding mechanism for not-for-profits, only in a new, digital, global and interconnected environment. Crowdfunding must be considered a tool for gathering both financial and social capital in large-scale and broad-reaching markets. The interaction of donors via social media and crowdfunding platforms can provide more than just financial funding to institutions (Davies, 2015). Not-for-profit organizations involved in crowdfunding can harness the interaction between individuals in order to foster volunteering and participation beyond digital contributions and into concrete participation. Research shows

that crowdfunding's donor interaction and exchange potential has yet to be exploited to its full capacity (Davies, 2015).

Besides its promise to draw individuals with shared interests together, crowdfunding must not be overseen or disregarded as a financing mechanism of great potential for not-for-profit organizations. In Chapters 3 and 4, we evaluate the feasibility of peer-to-peer crowdfunding to be the main financing source for the completion of an Alley Flat project in Austin, TX.

THE ALLEY FLAT INITIATIVE

Alley Flats is a term used to describe a specific type of auxiliary dwelling unit (ADU) in Austin, TX. Alley Flats are relatively affordable rental auxiliary dwelling units. For the purposes of this research, ADUs are understood as a form of small and self-contained urban infill housing that shares a site with but works independently from a larger single-family unit. In Austin, Alley Flats are limited to 1,100 square feet in area. Established in the early 2000s, the Alley Flat Initiative is a collaboration between The University of Texas at Austin Center for Sustainable Development (CSD) with two local not-for-profit organizations: Guadalupe Neighborhood Development Corporation (GNDC) and the Austin Community Design and Development Center (ACDDC). The goal of the initiative is to create a flexible and self-perpetuating delivery system for sustainable and affordable housing in Austin, in the form of ADUs. The ADU units, also known as Alley Flats, are affordable rental units as determined by City of Austin S.M.A.R.T Housing policy.

The not-for-profit organizations involved provide support to homeowners seeking to develop an Alley Flat on their properties. The property owner must finance the development of the unit, although GNDC has developed some Alley Flats as part of their institutional work. In this form of ad-hoc real estate development, the owner agrees to preserve the unit's affordability for at least five years in exchange for reduced professional design fees, provided by ACDDC, and for express permitting and fee exemptions. While ACDDC does not directly promote the development of the Alley

Flats, their relationship with property owners and their interest in increasing affordable infill urban housing constitutes an instance of strategic for-profit and not-for profit allegiance. On one hand, the property owner benefits from the unit's rental income, while, on the other, the not-for-profit's mission of building affordable housing is accomplished with the completion of the new unit.

Alley Flats are not easy to finance. Most times, property owners do not have enough equity on their property or equity saved in order to afford typical down payments for financial products. Even if they did, when property owners are evaluated for qualification—through acceptable debt-to-income ratios and other considerations by financial institutions—the existing lending structure omits potential ADU rental income from their considerations (Brown and Taylor, 2012). The following chapters evaluate the potential of crowdfunding as an alternative for a building typology that often fails to qualify for traditional financing. The Alley Flat initiative constitutes the integration of non-for-profit organization and private owner interests—real estate crowdfunding can therefore become a tool for cooperative outreach and funding between both stakeholders.

PEOPLE VOTE WITH THEIR CLICKS: THE CASE FOR REAL ESTATE CROWDFUNDING AS A DRIVER OF COMMUNITY DEVELOPMENT

In general, crowdfunding is best known and recognized as a funding alternative for initiatives related to the arts and technology. Equity and peer-to-peer lending crowdfunding are parallel and democratizing products that counter venture capital and angel investors. Both of these crowdfunding types run the risk of being conceived by the general public as the opportunity of a lifetime for investing in the one product that will see an investment multiplied by the thousands in returns. These perceptions are limited and misleading. Hopefully, SEC rulings on non-accredited crowdfunding investment will address such attitudes and false advertisement. Financial economics aside, the shared economy of crowdfunding has created an alternative route to development and creation: be it in the form of a film project, a journalist covering alternative news stories, a

democratic way for readers to pick and fund the stories they want to read, or grassroots initiatives to gather widespread, even viral, support (Bennet, Chin, Jones, 2014).

A known idiom referring to population mobility as a guide to understanding the preferred general preference of political governance structures dictates that people "vote with their feet". Once online interaction and social media is considered, supply and demand has entered a new age of being concerned with community development. The digital space, in this case, in the form of real estate crowdfunding offers an opportunity for people to "vote with their clicks". The will of the crowdfunding pack will therefore determine the kinds of projects and services deemed to be necessary and valued by the local community. Uncommon project typologies with limited access to traditional funding due to the structure of finance qualification may find an alternative in real estate crowdfunding.

Given the uncertainty around the long-term success of any type of crowdfunding investment product for becoming the preferred financial product of the middle-class investor, real estate crowdfunding must be evaluated from a different lens. Real estate crowdfunding could change the development trends of a community. The will and joint resolution of many, the crowd, now in the form of financial capital, can fund the development of projects that best benefit the needs of the community. On reflecting about a conversation with Fundrise founders, brothers Ben and Dan Miller, Matt Yglesias writes: "a huge network of small-time, commercial real-estate shareholders could provide a much-needed counterweight to the plague of NIMBYs (Not in my backyarders) strangling America's cities" (Yglesias, 2013).

If real estate crowdfunding can really change what is built in American cities, it can also fund those social services and grassroots initiatives that local community and shared economy deem necessary. Local not-for-profits and community development organizations, as well as those leading grassroots initiatives in communities, can find financial and social support in crowdfunding. The activist architects and urbanists, the maverick politicians, and all the alternative communities (McGuirk, 2014) will find, at

the very least, the financial tools to support the beginning stages of their projects and use the social momentum of crowdfunding to trigger financial and political support systems.

Almost 20 years ago, in the midst of New York State lowering funding to social programs in the state, Ronely Daniels, then Vice-president of Economic Revitalization at Empire State Development Corportation, said to those gathered in a community meeting: "I believe that people should be stakeholders in their communities"—"they should have equity in their communities and they need to elevate their thinking beyond the notion of the non-profit enterprise and embrace the notion of profit". He added to his remarks a commentary about the kinds of projects in which the community should be involved and those that would contribute to economic development of the community: "projects that are sustainable, that generate revenue" (Bailloy, 1996). With the introduction of crowdfunding into community development real estate projects, members of the community can own a small share of their neighborhood—a share on the spaces that matter the most to them and that generate value to their community and city.

Real estate crowdfunding has proven effective in specific projects. For example, in a local initiative led by Fundrise founders in Washington, a retail project named Maketto was completed in 2015 and funded by community stakeholders via crowdfunding. Maketto and another project associated to social equity real estate development in crowdfunding will be discussed through the chapters that follow. The question is whether or not real estate crowdfunding can become a large-scale applicable funding mechanism that disrupts market-driven development trends.

Many equity and peer-to-peer lending crowdfunding platforms that cater to individuals and organizations with inherently environmental or social missions exist: some of them include CauseVox, Amado, Kiva, iOby or Spacehive for reference. These sites are unique in the crowdfunding platform market—they cater those seeking to invest in projects for "social good" but none are exclusively geared towards real estate assets.

Real estate crowdfunding platforms are, to the extents of the research at hand, limited in observing the social and environmental impact of real estate development. In the future, crowdfunding, and its application in real estate and community development must not be disregarded as a tool for financing community led initiatives and projects that aim to benefit and improve the standard of living in our neighborhoods and community, such as the Alley Flat Initiative.

CHAPTER 2: REAL ESTATE CROWDFUNDING PLATFORMS: ANALYSIS OF THREE PLATFORMS AND THEIR FEATURED INVESTMENT PRODUCTS

GENERAL LANDSCAPE

Since its adoption in 2012, the JOBS Act and its open policy on crowdfunding have stimulated the development of online crowdfunding platforms in the United States. The impending SEC rulings that permit non-accredited investors to participate in the crowdfunding industry will increase the magnitude of the industry but will probably also motivate an increase in the number of crowdfunding platforms already available.

The real estate crowdfunding industry did not develop until years after the first crowdfunding platforms, which were mostly dedicated to donation and reward-based crowdfunding but set the groundwork for new forms to be developed. As previously explained in the literature review, changes in policy and technology have also contributed to an increased participation and presence of crowdfunding investment products online. The landscape of online real estate crowdfunding platforms in the U.S. is diverse and in constant change.

According to the list of crowdfunding platforms published by Time Realty News, 156 real estate crowdfunding platforms are online and operating. Of those 156, only three operate in Canada, the rest in the United States. Time Realty News relies on their own expertise in the field and on crowdsourcing in order to maintain their list up-to-date. The number of platforms now operating in the US reveals the growing interest in the real estate crowdfunding industry by the securities investment industry. Recently, in 2011, the Miller brothers began working within pre-JOBS Act regulations to complete their first crowdfunded project and later, in 2012, founded Fundrise, the first real estate crowdfunding platform. In only three years since the first real estate crowdfunding site

was unveiled and two years since the passing of the JOBS Act, more than 150 real estate crowdfunding online platforms are in operation. But real estate crowdfunding is not limited to North America: platforms in Europe, South America, Asia, Middle East, Africa and Australia all operate within their own local regulations and even some platforms offer international real estate investment opportunities.

The increasing number of platforms available in the United States corresponds to a general perception of future growth and opportunity in the crowdfunding industry, especially as relates to the real estate investment industry, which has been historically reserved to a niche sector of investors. Determining the extent to which the 150+ real estate crowdfunding platforms are financially successful is beyond the scope of this study and, even if it were, the short term existence of these platforms do not permit significant assessment at this time. Stakeholders in the industry have just begun to consider how to evaluate the performance of the real estate crowdfunding industry amid existing limitations.

Lend It USA, the organization behind the world's largest and most important conference series dedicated to connecting the global online lending community. Recently, Lend It USA published, through its Lend Academy portal, a list of the nine leading real estate crowdfunding platforms based on originations (Lichtenwald, 2015). Participating companies were required to submit at least one of the following: total originations, originations over the three months preceeding August 31st 2015, or total monthly originations for the month of August 2015. The researchers used the data to rank the organizations according to their total originations and normalized monthly originations. Lend It is limited because it does not acknowledge the number of platforms contacted, their methodology or the fact that companies are generally protective about their internal

financial data. Lend It's ranking is useful, however, for understanding the magnitude of operations of some of the leading firms in the real estate crowdfunding sector.

The total originations according to Lend It USA rankings vary from $10.3 million to $144 million. The normalized monthly originations range from an estimated $25 million for the platform occupying the first place in the ranking, Lending Home, to $5 million estimated monthly originations for AssetAvenue, the 9th ranked real estate crowdfunding platform. However, total originations are a misleading measure to evaluate the potential of the real estate crowdfunding industry. First, specifically to this study, not all companies reported their total originations. Second, platforms surveyed had been operating for three years or less with a large majority of their investment products still expected to be repaid by borrowers. Their performance therefore remains unknown. The findings of Lend It's ranking initiative must be continued in the future in order to accurately reflect the expected growth of the industry and the performance of associated investment products.

Despite the incipience of the real estate crowdfunding sector, experts and those involved in the industry are optimistic about its future, especially when speaking about the inclusion of non-accredited investors into the market. Bruce Lipnick, the founder and CEO of Crowd Alliance, an equity crowdfunding platform expanding its services to real estate crowdfunding, elaborates on the potential unleashed by the JOBS Act and the expansion of the market (Drake, 2015):

"In 2013, there were 8.6 million accredited investors, including angels that invested a total of $24.8 billion. In 2012, a mere 4 percent of that number, 265,000 business angels, invested $22.5 billion. I see this freedom to advertise private offerings under the Reg D 506c Act, passed 23 September 2013, as the future of opportunities."

Lipnick refers to the opportunities for platforms once the market opens entirely to non-accredited investors. At the time this research was performed, regulations for non-accredited investors were still not in place. Further research on a more open and transparent set of platforms, guided by Section III regulations, can provide added insight into potential structure and products across different platforms.

PARTICULAR PERSPECTIVES

This section is concerned with the research and survey of three leading real estate crowdfunding platforms in the United States. The purpose of the section is to better understand the business models of organizations and investment opportunities available through their real estate crowdfunding platforms. The findings of the section will provide guidance for the modeling of a real estate crowdfunding scenario for an Alley Flat presented in Chapters 3 and 4.

METHODOLOGY AND LIMITATIONS

The selection of the crowdfunding platforms evaluated in this section of the research was initially guided by:

- Literature review and related research on the topic of real estate crowdfunding: real estate crowdfunding platforms that were often mentioned and referenced by previous research and media outlets.
- Online rankings and news stories highlighting currently outstanding and top-performing real estate crowdfunding platforms.

Data for each platforms was gathered from their portals and complemented with parallel literature to create a platform profile, which includes type of crowdfunding model (type or types of investment models), year of founding, physical location, states

where opportunities are offered, and number of employees, among other relevant available data.

The projects in the sample include all projects available for review upon registration to the crowdfunding platforms. Limitations in the sample are described in more detail below. Data collected for the study of investment opportunities includes: project location (city and state), building use or program, current annual return (when available), expected gross annual return, investment size or crowdfunding goal, minimum investment per investor, term of agreement, and investment type.

The initial purpose of the research—to focus on the major and most relevant crowdfunding platforms—was limited by the regulations ruling over equity crowdfunding and, by extension, over all real estate crowdfunding platforms. Since, at the time of research, the standing SEC rulings only allow for accredited investors to participate in the equity crowdfunding sector, an overwhelming majority of real estate crowdfunding platforms identified for this study require user registration and accreditation background checks in order for users to access existing and completed investment products.

From the twenty platforms identified as potential sites for research, only three permitted open access to their existing and completed investment products upon registration. Even those, "open" platforms do not display their complete list of investment opportunities to users that have not completed the accredited investor checks. The findings of this study are therefore limited to the analysis of the data gathered from those investment opportunities listed to all users, without distinction of investment accreditation status. The three real estate crowdfunding platforms investigated in this section are: Fundrise, Patch of Land and Groundfloor.

The period of analysis is another major limitation of this analysis. Real estate crowdfunding platforms and the investment opportunities they offer are in constant change. The data collection for this analysis was carried out between September 27th, 2015 and October 13th 2015. The data collected includes both,active and fully funded deals in order to achieve a representative sample of the available opportunities at the time. All the products accounted for in the analysis were available for review by all registered users without regard for their accredited or non-accredited investor status.

FINDINGS

This section provides a detailed description of the findings from the analysis performed on the real estate investment products of the three platforms explored in this study. A summary of the findings is available in Table 2.1 (Summary of findings from crowdfunding platform analysis). The table is located in the end of this chapter.

FUNDRISE

Platform Profile

Fundrise was founded with the goal to "give everyone the opportunity to invest in real estate" (Fundrise, 2015). Furthermore, the company's vision is that everyone should be able to invest in the places around them - a vision directly related to one of the most promising characteristics of real estate crowdfunding: local knowledge and interest.

Brothers Daniel and Ben Miller are the founders of Fundrise. Sons of a prominent real estate developer in Washington D.C., they are pioneers in the equity real estate crowdfunding industry. As early as 2012, the Millers worked with the SEC in order to allow for crowd-financing of Maketto, a renewal of a mixed-use retail project in DC involving $325,000 in equity collected from 175 individual investors. Following their success with Maketto, the Miller brothers founded Fundrise in 2012.

Fundrise's headquarters are located in Washington D.C. According to their website, their office is operated by 26 employees. Fundrise discloses a list of their investors and board of directors. Their business model revolves around displaying the prominence of their investors and developers in order to project a sense of stability and acquired knowledge to prospective investors.

Furthermore, Fundrise claims to underwrite and prefund the projects they "put out" to the public in order to demonstrate their commitment and trust in the projects they

have reviewed and promote. In fact, Fundrise claims their due diligence process results in fewer than 1% of the projects reviewed to be approved and supported by the platform (Fundrise, 2015). Their pursuit to gather a reputable set of investors and developers and to be portrayed as a knowledgeable and secure intermediary has positioned them at the forefront of the industry. Investors and developers in their portfolio include: Silverstein Properties, Ren Ren Inc., Berman Enterprises, Collaborative Fund, Guggenheim Partners, among many other major organizations. At the time of this research, Fundrise claimed to have over 69,000 online members and that 920 companies and developers use their services.

Investment Opportunities

Fundrise allowed for the review of forty-four (44) projects before undergoing accredited investor background checks. The findings from the screening of these investment opportunities follow:

Location:

- Over 30% of the investment opportunities, 13 out of the 44 surveyed projects, were located in the Washington, DC area.
- 25% of the investment opportunities, 11 out of the 44 surveyed projects, were located in the state of New York, and most projects are specifically located in Brooklyn and Manhattan.
- The state of Washington had 4 active projects in the platform, followed by Pennsylvania with 3 projects, and North Carolina with 2 investment opportunities.
- States with one investment opportunity include: Minnesota, Virginia, Oregon, Colorado, Florida, Texas, Indiana, Georgia, Arizona, Utah and California.

Building Use:

- 19 of the 44 building uses of the projects displayed in the platform were listed as Multifamily Housing.
- 25% (11 projects) of the available investment opportunities were listed under Mixed Use building use, which in most cases involved some type of multifamily housing.
- 6 projects were listed as Single Family Residential and 4 projects as retail.
- Other uses with only one project include: Office, Shared Manufacturing, Mixed Use Manufacturing and Land.
- Land is listed as a Use Type and refers to an investment opportunity involving the acquisition of land with an undefined building use.

Gross Annual ROI (Return On Investment):

- Fundrise claims to offer investors an average annual ROI of between 12 and 16%.
- The mean annual ROI of the 44 projects surveyed was 12%. The minimum annual ROI offered was 7% and the maximum was 23.5%.
- The first quartile of the annual ROI data was 11.3%. The third quartile of the sample was 15.85%.
- The average annual ROI offered on Fundrise according to the 44 sampled investment opportunities is 13.3%.

Underlying Security:

- The majority of investment opportunities are equity investments: 60% or 26 of the 44 sampled investment opportunities were listed as an equity investment.
- The remaining 18 projects surveyed were debt investment opportunities: either senior or mezzanine debt deals.

Crowdfunding Goal:

- The median crowdfunding goal from Fundrise projects was $500,000. The minimum project investment size or crowdfunding goal was $150,000 and the largest project crowdfunding goal in the platform at the time was $3,100,000.
- The project crowdfunding goal data revealed a first quartile of $321,250 while the investment size third quartile was $1,258,750.
- The average project investment size on Fundrise according to the 44 sampled investment opportunities is $835,114.

Minimum Investment:

- 84% of the investment opportunities reviewed required investors to participate with a minimum investment of $5,000.
- Other projects required investors to participate with investments of as little as $100 or as much as $10,000.

Investment Term:

- The median investment term for the investment opportunities reviewed was 24 months.
- The shortest investment duration found was 9 months; the longest investment term was 60 months.
- Pure equity deals do not have an investment period as they involve the investor acquiring an indefinite equity stake of the project in case.

Project Objectives:

- The definition of the different project objectives of each investment opportunity varied to a relevant degree. However, some trends are apparent from inspection of the data.

- Renovations, including historic renovations and adaptive reuse projects, account for 17 of the 44 investment opportunities.
- Ground-up construction investment opportunities account for 8 of the 44 projects reviewed.
- Property Repositioning and Stabilization investment opportunities are another major sector, representing 11 of the 44 offerings on Fundrise.
- Pre-development and acquisition related investment opportunities are less prevalent in the data set but are worth mentioning.
- No direct correlation between project phase and underlying security method was identified.

PATCH OF LAND

Platform Profile

Patch of Land's mission is to "solve the problem of slow, inefficient, fragmented and obscure private real estate lending by using the latest technology, data and process efficiency to more accurately assign risk profiles and project viability, while greatly reducing time and cost of loan underwriting for borrowers with real estate projects that are overlooked or rejected by banks and traditional lenders" (Patch of Land, 2015). The organization's mantra is "building wealth, growing communities". Different from Fundrise, Patch of Land is, apparently, not solely concerned with building a reputation of stability and confidence through the reputation of their investor and client network. They aim to provide funding for projects that are otherwise overlooked by traditional funding mechanism. As a result, investment opportunities in Patch of Land are typically not investment products offered by large, corporate real estate development firms, but fairly local and ad-hoc real estate development projects.

Patch of Land (PoL) mitigates the risk associated with smaller developers and grassroots borrowers through its business model. PoL does not offer equity investment opportunities. PoL is a crowdfunding real estate platform that offers various secured real estate debt products on assets backed by first position liens and personal guarantees—meaning the creditor, PoL, has the legal right to sell the collateral, the property, and meet obligations with investors upon debtor failing to meet the loan obligations. In essence, PoL is an online peer-to-peer real estate (P2RE) debt or crowdlending marketplace.

PoL was founded soon after the passing of the JOBS Act in 2012. In fact, one of its founders, Jason Fritton, was directly involved in lobbying for the promotion of the JOBS Act (Patch of Land, 2015). PoL began as a collaboration between Jason, who was an experienced e-commerce entrepreneur; his brother, Brian, who brought his software

engineering and systems architecture knowledge; Carlo Tabibi, an experienced Los Angeles technology and real estate entrepreneur who provided financial advice; and AdaPia d'Errico, who was responsible for the branding and marketing strategies. In addition to the founders of PoL, 19 other employees are currently responsible for the organization's operations.

With headquarters based in Los Angeles, California, and a satellite office in Brooklyn, New York, PoL investment opportunities display a wide range of geographic location. Borrowers of over 20 states in the US have successfully funded their projects via PoL. As of November 28th, 2015, and since late 2013 when operations resumed, PoL funded 178 loans for a gross value of $66,871,800. Debt investment products have started to pay back funders: $13,367,960 has been returned to investors as of 2015 (Patch of Land, 2015).

Most investment opportunities in PoL are renovation and repair related loans. PoL estimates the average Loan to ARV (after-repair-value) of funded loans to be 37.38%. The average rate of return on funded projects is 11.84% and the average loan size of projects to the date of inquiry is $375,173 (Patch of Land, 2015). According to reports from the investment platform, at least 93% of their loans are dedicated to housing projects: 57% of all projects funded being single-family residential projects and 36% of all projects multi-family residential.

Investment Opportunities

At the time of research, Fundrise allowed for the review of seventy-six (76) open for investment and funded projects before requiring an accredited investor background check. The findings from the screening of these investment opportunities follow:

Location:

- Investment opportunities featured at the time of research were available in 15 states of the US.
- 39.5% of the investment opportunities were concentrated in the state of New Jersey. Other states with high relevant concentration of loan deals include California, with 14.5% of total investment opportunities within its state boundaries, New York, with 10.5%, and Colorado, with 7.9%.
- Other states with PoL loans include: Vermont, Michigan, North Carolina, Florida, Tennessee, Texas, Maryland, Illinois, Louisiana, Washington DC (District of Columbia) and Iowa.

Building Use:

- Consistent with the platform's reports, 58% of the reviewed investment opportunities were related to single-family residential projects, the rest of the investment opportunities corresponded to multifamily residential projects.
- All investment opportunities in the sample correspond to residential projects, no other use, such as commercial or mixed-use, was reported.

Gross Annual ROI (return on investment):

- PoL claims to offer investors average annual ROI (return on investment) of 11.84%.
- ROI rates on PoL's featured investment opportunities only ranged between 10% and 13% and they were fixed to 1% rate changes limited to that range.

Underlying Security:

- All investment products offered by PoL are peer-to-peer real estate lending products. No equity crowdfunding products are offered in this platform.

Crowdfunding Goal:

- The median crowdfunding goal from PoL projects was $215,000. The smallest project crowdfunding goal was $58,000 and the largest project crowdfunding goal in the platform at the time was $1,950,000.
- The project crowdfunding goal data revealed a first quartile of $167,000 while the investment size third quartile was $440,000.
- The average project investment size on PoL according to the 77 reviewed investment opportunities is $405,929.

Minimum Investment:

- Only 11 of the 77 reviewed investment opportunities required a minimum investment for participation. Whenever they did require a minimum participation, projects required a minimum investment of $5,000.

Investment Term:

- Investment terms in PoL ranged from 6 to 18 months in duration.
- A vast majority of investment opportunities required a 12-month investment length.
- Only 5 projects out of 77 total projects required an 18-month investment commitment. Another 7 projects required shorter-term, 6-month, investment commitments.

Project Objectives:

- Considering all investment opportunities were related to residential properties 6 project objectives are found: Acquisition Only; Acquisition and Renovation; Renovation Only; Renovation and Refinance; Refinance and Acquisition; Refinance Only.

- Renovation and Refinance includes projects consisting on financing renovations by using PoL loans. Once renovations are completed, properties are refinanced vie traditional funding mechanisms.
- More than half of the reviewed investment opportunities, 53.2%, were Acquisition and Renovation deals. 20.8% of the deals involve projects dealing with in property Acquisition Only.
- Renovation and Refinance projects represent 13% of the reviewed investment opportunities, while Refinance Only deals represent 7.8%.
- Renovation only and Acquisition and Refinance investment opportunities are less prevalent project objectives in this sample.
- No ground-up construction loans were found in the sample.

GROUNDFLOOR

Platform Profile

Groundfloor's mission is to "reformat and open private capital markets for the benefit of individual investors and the investments they fund" (Groundfloor, 2015). Similar to PoL, Groundfloor focuses on real estate transactions in the form of peer-to-peer lending through crowdfunding. By August 31st, 2015, before the passing of Title III of the JOBS Act, Groundfloor claimed to be the first and only online real estate marketplace open to non-accredited investors nation-wide, as approved by the SEC. Their status as a non-accredited investor marketplace allowed for analysis of their existing investment opportunities because all their investment products were available for inspection without accredited investor background checks.

Brian Dally and Nick Bhargava founded Groundfloor on February 2013 (Groundfloor, 2015). The organization is headquartered in Atlanta, Georgia. The organization is composed of 10 employees, including its two founders. Similar to Fundrise, Groundfloor is diligent about highlighting the expertise of their board of directors and group of advisors in order to portray a sense of collective experience and knowledge on the real estate industry.

At the time of this study, Groundfloor had successfully funded or had available investment opportunities in nine states of the United States: Massachusetts, Maryland, Washington DC (District of Columbia), Virginia, Georgia, Illinois, Washington and California. Investors were offered an average 12% ROI on investment products put through the platform in 6 to 12 month investment length periods.

Investment Opportunities

At the time of research, Groundfloor allowed for the review of forty-seven (47) crowdfunding investment products including products open for investment and funded projects. Following their early approval as a non-accredited investor crowdfunding platform, Groundfloor expected their availability of investment opportunities to increase drastically in the near future. The findings from the screening of these investment opportunities follow:

Location:

- Investment opportunities featured at the time of research were available in only four states in the United States, as compared to their historical geographical distribution of funded loans, which expands to nine states.
- An overwhelming majority of featured investment opportunities were located in the state of Georgia: 43 of the 47 projects, in other words, more than 90% of the investment opportunities.
- Colorado, New Jersey and Washington DC (District of Columbia) were the other three states with available investment opportunities at the time

Building Use:

- Only 10.4% of the featured investment products corresponded to Multifamily Residential-related projects.
- The remaining 89.6% of crowdfunded loans in the platforms relate to Single Family Residential projects. No other building uses were found in the sample at the time of research.

Gross Annual ROI (return on investment):

- Groundfloor claims to offer investors average annual ROI (return on investment) of 12%.
- ROI rates on Groundfloor's featured investment opportunities ranged between 8% and 25.8%.
- The mean ROI rate in the sample was 13%, while the sample's first quartile was 9.6% and the third quartile 16%.
- The average ROI rate in Grounfloor's featured investment opportunities was 12.97%, almost 1% higher than what the organization claims the platform's average ROI rate to be. However, the sample evaluated is limited to only 47 projects and does not include all crowdfunded loans.

Underlying Security:

- All investment opportunities offered by Groundfloor were peer-to-peer real estate lending investment products. No equity crowdfunding products are offered in this platform.
- Groundfloor discloses the underlying security on the investment product. Loans are either first or second lien in their investment structure.
- Three quarters of the evaluated loan investment opportunities in the platform had a first lien loan structure.

Crowdfunding Goal:

- The median crowdfunding goal from Groundfloor projects was $52,500. The minimum project investment size or crowdfunding goal was $8,000 and the largest project crowdfunding goal in the platform at the time was $284,000.

- The project crowdfunding goal data revealed a first quartile of $38,750 while the investment size third quartile was $88,000.
- According to the 47 reviewed investment opportunities, the average loan investment size found in Groundfloor was $161,933.

Minimum Investment:

- No minimum investment requirements are disclosed in any of the project descriptions in this platform.

Investment Term:

- Groundfloor's featured loan investment opportunities were structured in 6, 9 or 12 month long investment length periods.
- Most loans were found to be structured under 6 and 12-month investment periods, the majority under a 12-month commitment.

Project Objectives:

- Considering all investment opportunities were related to residential properties four main project objectives include: Acquisition Only; Acquisition and Renovation; Renovation Only; New Construction.
- Almost half of loan project objectives, 48.9%, were related to renovation only projects. Acquisition and Renovation projects represent 17% of the featured investment opportunities. Projects related to property renovations represent a majority of the loan project objectives in the analysis of featured loans in Groundfloor's platform.
- New construction projects are another relevant project objective type corresponding to 23.4% of the share of project objectives.

ANALYSIS OF FINDINGS

Location			Building Use		Annual ROI		Underlying Security		Crowdfunding Goal		Minimum Investment		Investment Term		Project Objective	
no. of states with projects											Required (r) Optional (o) Not Required (nr)					
top 3 states by no. of projects			ranked project building use		min / fq / med / tq / max		type of underlying security		min / fq / med / tq / max				investment terms offered		ranked project objective types	
Platform HQ Location			share of total projects		average		share of total projects		average		Options of required min. investment		most common investment term		share of total projects	
Fundrise																
16	DC	DC	Multifamily	43%	7.0%	**13.3%**	Equity	60%	$150,000	**$835,114**	r	$100	9 - 60 mo	24 mo	Renovation, Hist. Renovation, Adaptive Reuse	39%
	NY		Mixed Use	25%	11.3%		Debt	40%	$321,250			$5,000			Property Reposition, Stabilization	25%
	WA		Single Family	14%	**12.0%**				**$500,000**			$10,000			Ground-up Construction	18%
			Retail	5%	15.8%				$1,258,750						Predevelopment, Acquisition	18%
			Others	13%	23.5%				$3,100,000							
Patch Of Land																
15	NJ	CA	Single Family	58%	10.0%	**11.8%**	Debt	100%	$58,000	**$405,929**	o	$5,000	6 - 18 mo	12 mo	Acquisition & Renovation	53%
	CA	NY	Multifamily	42%	-				$167,000						Acqusition	21%
	NY				-				**$215,000**						Renovation & Refinance	13%
					-				$440,000						Refinance	8%
					13.0%				$1,950,000						Renovation, Acquisition & Refinance	5%
Groundfloor																
4	GA	GA	Single Family	90%	6.0%	**12.9%**	Debt (first lien)	75%	$8,000	**$161,935**	nr	-	6, 9, 10 mo	12 mo	Renovation	49%
	CO		Multifamily	10%	9.6%		Debt (second lien)	25%	$38,750						New Construction	23%
	NJ				**13.0%**				**$52,500**						Acquisition & Renovation	17%
					16.0%				$88,000						Acquisition Only	11%
					25.8%				$284,000							

Table 2.1: Summary of findings from crowdfunding platform analysis. In the table, ROI=Return On Investment, fq=first quintile, med=median, tq=third quintile.

Projects Featured Are Close To Platforms

One of the main assumptions distinguishing crowdfunding campaigns that finance real estate products from those related to other product types is the crucial role of local knowledge and experience. In the case of real estate crowdfunding campaigns, promoters and investors must be closely related to the physical context of the project. Because real estate is a physical, generally permanent and stationary asset, its financial success depends as much on its appropriate management as on the real estate market affecting the property.

The results of the survey generally confirm the study's initial assumption. The platforms in this study diligently display the diversity of locations in which projects have been historically funded. However, according to the sample analyzed, project location and distribution are significantly related to the location of the platform's headquarters or offices. More projects are located in the states where platforms operate. In the case of the three platforms analyzed, the state with most investment opportunities available at the time of research corresponds to states where headquarters are located. In the case of Patch Of Land, New Jersey is the state with most projects featured in the platform. Patch of Land offices are located in California and New York (satellite office). The magnitude of projects located in New Jersey is attributable to the fact that PoL operates in New York and has direct access to knowledge and developers in both New York and New Jersey.

Despite the tendency of investment opportunities featured in a particular real estate crowdfunding platform to be located close to the platform's operational location, investment platforms are actively offering investment opportunities in states where they do not operate directly. Investment opportunities and the diversity of location will depend on the platform's particular business model, due diligence methods and their degree of exposure with promoters in other states. In the sample studied, Fundrise and

Patch of Land offered investment opportunities in 16 and 15 states respectively, including their home-base state.

The findings of this analysis partially confirm the relationship of local knowledge and experience with real estate development in the context of real estate crowdfunding platforms. A platform is more likely to offer a majority of investment opportunities related to projects in relative proximity to their area of operation. Further research should analyze a larger sample of active and funded projects in order to ratify these findings. The relationship of funders, their location and their proximity to the projects they choose to invest in merits future research. However, data specific to funders is only available to platforms and the location of investors in relationship to the location of projects they decide to fund cannot be established.

The Crowd Funds Residential Development

Housing is the main building use of investment opportunities in the three platforms studied. Multifamily and mixed-use developments were more prevalent than single-family projects in Fundrise investment opportunities. Patch of Land and Groundfloor loans in this sample are entirely dedicated to residential developments, single-family developments being the most prevalent. Fundrise attracts and pursues relationships with major developers in urban areas who tend to be involved in projects of higher density and diversity of use. These distinctions emphasize that a platform's business model directly influences the building type of the investment opportunities they offer to investors.

The Crowd Funds Hard Costs

While the crowdfunding campaign objectives vary from project-to-project and platform-to-platform, renovation and construction projects are the most prevalent type of

project objective across the three sets of investment opportunities analyzed. The successful funding of renovation projects contributes to the improvement of the existing built environment. Real estate crowdfunding can finance development items other than hard costs. Project objectives such as pre-development loans for design services and acquisition only loans are examples of alternative crowdfunding finance project objectives found in the study.

Positive Social Impact Is Not Guaranteed

There is no evidence of that any of the three platforms assessed the social impact of funded projects. For instance, no details are provided regarding affordability of multifamily developments. Single-family renovations and acquisitions and renovations models are generally pursued by developers following a "fix-and-flip" model – by which a property is expected to significantly increase its value due to renovations and additions. Property "flipping" has been associated with effects of gentrification and increase of property values that affect affordability in neighborhoods and cities.

One investment opportunity in Groundfloor highlighted its positive social purpose in order to attract investors. The description for this single-family residential renovation investment opportunity reads: "renovation loan in conjunction with the Atlanta Police Foundation to restore a blighted 3 bed, 2 bath house so that a deserving Atlanta Police Officer and family can live in-town". The investment opportunity is the result of a partnership between Groundfloor and the Atlanta Police Foundation (AFP) (Woods, 2014). The AFP's Secure Neighborhoods Initiative task is to provide affordable housing alternatives for police officers to reside within the city of Atlanta and the communities they police. Communities benefit from residing officers who are invested in the

communities they serve and offices are able to access affordable housing alternatives within the city and close to their places of work.

One hundred and one investors funded the $75,000-loan for the project on January 13th 2015, after just less than 2 months of investment availability. Investors were willing to accept a lower return on investment rate (ROI) of 7% as compared to the sites average of 12.9%. One possibility is that the funders balanced the lower ROI with the positive social impact and purpose of the project. Upon complete payback of investment to funders, the 146 Ericson St. project in Atlanta, GA, will serve as an example of equity real estate crowdfunding applied to community development.

CHAPTER 3: BUILDING AN ADU: COSTS AND REVENUE

There is not one single and universally applicable financing method for ADUs. The conditions around which ADUs are developed are unique to each parcel. The physical constraints of the site, availability of area, are unique in each case; they affect the design and costs of the ADU. However, more relevant to finances is the ownership structure of a lot or lots. The ownership structure is a major factor affecting financing of ADUs, especially Alley Flats.

Numerous ownership structures can be devised in order to advance the construction of Alley Flats. The 2008 Report on The Alley Flat Initiative, published by the Center for Sustainable Development at The University of Texas at Austin, highlights five ownership structures: individual homeowners, non-profit developers, private developers, neighborhood development organizations, and community land trusts (UTCSD, 2008). Each of these ownership structures has limitations and advantages to the construction of Alley Flats, and, incidentally, provision of affordable housing in ADUs in Austin.

This research is concerned with studying the potential of real estate equity crowdfunding in only one of these ownership structures: individual owners living in the primary dwelling unit of a parcel. More specifically, the analysis will be geared towards evaluating crowdfunding as a financing alternative for individual owners who would not be able to access traditional financing means, namely Fannie Mae and Freddie Mac.

This chapter analyzes the relocation dynamics of legacy homeowners, property owners with unchanged deeds between 1992 and 2002, in four major neighborhoods of East Austin. According to this chapter's findings, on average, legacy homeowner

properties in the four neighborhoods studied have decreased in number by 48% between 2002 and 2015. Presumably, legacy homeowners acquired their properties at a time, 1992 and before, when affordable single-family housing units close to the urban core were available.

Diverse factors have contributed to the increase in relocation of legacy homeowners from East Austin and the trend is not changing. Legacy properties are being acquired at market rate values and developed for sale at market rates too. Increasing property taxes are a major issue altering the affordability of homeowner properties.

This chapter will address the potential of equity crowdfunding as applied to real estate in providing financing for the scenario previously described. The data presented in Chapter 1 will guide assumptions about equity crowdfunding in real estate. Research on past and current housing trends in Austin will inform assumptions about development costs, operational expenses, revenue and taxes. The chapter concludes with an assessment of the potential of crowdfunding and recommendations to individual homeowners, relevant organizations and policy-makers.

PROPERTY DEVELOPMENT COSTS ASSUMPTIONS

Hard Costs

Construction Cost Assumptions

The Alley Flat Initiative Design Catalog 2015 (ACDDC, 2015) estimates construction costs per square foot for Alley Flats to be $147. This estimate is derived from the construction cost of an Alley Flat in the Holly Neighborhood. I consulted RS Means' Square Foot Estimator and City Cost Indexes in order to evaluate the Design Catalog assumption for construction cost.

Using RS Means' Square Foot Estimator, I obtained an average per square foot construction cost. The Square Foot Estimator Tool allows the user to input a number of variables about the project in case. Since we used the student version, certain capabilities of the tool were limited. However, the model was developed to replicate the parameters of an Alley Flat as closely as possible.

The average construction per square foot of a residential unit during the fourth quarter of 2015 is $183.70. Major assumptions of the model include: building area of 1,1000 sf, the maximum allowed by ADU regulations in Austin, a contractor service fee of 10%, and one fully-equipped bathroom and kitchen (Appendix 1 RSMeans Sheet 1).

Given the particular and specific design required by each Alley Flat, note that the model's building quality was set to "Custom", a setting that implies high quality finishes and skilled labor. Using the same model parameters but replacing "Custom" building quality with "Average" building quality, the cost per square footage of the model is $148.48 (Appendix 2 RS Means Sheet 2).

The Square Foot Estimator provides estimates based on national average costs. The City Cost Indexes is an annual publication by The Gordian Group, through its RS

Means platform, containing average construction indexes for 731 US and Canadian cities (See Appendix 3 City Cost Indexes). The catalog displays relative percentage factors of material and installation costs relative to national averages. The City of Austin's City Cost Index during the fourth quarter of 2015 was 83.8. On average construction costs, which includes material and installation costs, in the City of Austin are about 26% less expensive than the national average. Given City of Austin's City Cost Index and the price per square foot of construction range previously calculated, between $148.88 and $183.70, the geographically weighted construction cost per square foot range is between $124.76 and $154.94. The geographically weighted RS Means construction cost per square footage mean value is $139.85.

The findings from consulting RS Means for average residential construction costs in Austin for structures similar to previous Alley Flats confirms the relative accuracy of the $147 construction cost per square foot assumption. The relatively specific and unique design and development requirements of each Alley Flat may contribute to the higher construction costs of the ACDDC estimates. For the purposes of this research the assumed value for construction costs of ADUs is the result of averaging ACDDC's construction cost estimates and custom quality residential construction cost according to RS Means data. Specifically, the construction cost for financing considerations in this study will be assumed to be $151—the average between the maximum cost of RSMeans analysis and ACDDC estimates Table 3.1, in the next page, summarizes the construction cost values from the different sources discussed.

Average New Residential Construction Costs by Square Foot						
ACDDC	**RS Means Online Dataset**					
The Alley Flat Initiative Catalog 2015	**National Average (Square Foot Estimator)**		**Weighted Values for City of Austin, TX (City Cost Index)**			
Average Construction Cost for Alley Flat (for sample project)	Average Quality Residential Construction	Custom Quality Residential Construction	Average Quality Residential Construction	Custom Quality Residential Construction	Mean Value of Costs	
$147.00	$148.88	$183.70	$124.76	$154.94	**$139.85**	

Table 3.1 – Summary of residential construction costs

Soft Costs

Design Fees

When an owner agrees to build an Alley Flat using the services of ACDDC they benefit from a reduced design service fee. Typically, ACDDC will request a 5% design fee based on total construction costs of the project (ACDDC, 2015). In exchange, the owner must assure that the unit built will remain affordable, according to affordability standards set by the City of Austin's S.M.A.R.T. Housing program, for the 5 years following completion of construction. Not only will the owner's commitment to S.M.A.R.T. Housing rental caps reduce professional design fees but also will result in the waiver of development costs associated with permitting from the City of Austin.

For the purposes of this research, we assume the individual owner will seek services from a firm similar to ACDDC, where a considerable reduction of design fees as part of the benefits from pursuing the construction of an Alley Flat are provided to the

property owner. Therefore, we assume a design service fee of 5%, aligned to ACDDC's business model, for the purposes of this research.

Land Costs

Land costs are not considered in the scenarios presented in this research. Individual homeowners are assumed to already hold complete ownership of the land and primary dwelling unit in the site. In either case, the land cost is not a consideration in the estimation of development costs.

Other Considerations and Contingency

Additional significant costs may considerably affect the development costs of an Alley Flat. For instance, the connection of the ADU to the existing city water service infrastructure network may require the installation of a new connection whenever the existing connection line is not adequate due to the increased demand resulting from the additional unit on-site. According to ACDDC's previous experience on this issue, such a scenario requiring an upgrade of a property's water tap would add approximately an additional $2,700 of engineering professional fees and construction costs ranging between $10,000 and $20,000 to the project budget. Assuming a baseline construction area of 1,100 sq ft and a mid range water tab upgrade cost of $17,700, the site improvement would add about $16 per sq ft to the construction cost of the project. Assuming a $151 per sq ft construction cost, a circumstance requiring a water utility improvement of this type on a site would increase construction costs by 10.5%.

Unexpected administrative costs related to difficult procurement, feasibility and permitting stages of development are less significant compared to utility improvements, but can burden any construction cost budget. While the recent City of Austin regulatory

changes loosen the permitting constraints around ADUs, and although Alley Flats benefit from waiving and expediting of certain permitting costs via the S.M.A.R.T housing program, issues regarding neighborhood plans can delay permitting and add unforeseen administrative costs. For instance, while working through the permitting process in Clarksville, ACDDC and the Clarksville Community Development Corporation have faced additional costs due to district designations within the neighborhood. The property they are working on is located within a historic district. The permitting process for this Alley Flat will require a review from the Historic Landmarks Commission—adding a $1,000 fee for the review, delaying the permitting process significantly, and resulting in additional administrative costs.

A contingency is a portion of the development cost reserved to address unknown conditions and costs that cannot be recovered (DelPico, 2004, p. 377). Properly setting contingency allowances can help address unforeseen needs such as the water utility upgrade or additional administrative and permitting costs previously explained.

For the purposes of the models presented in this research, we do not account for additional and extraordinary development costs presented by issues such as water and electric utility upgrades or issues with City of Austin procurement and development permits. Ideally, in the future, such costs should be mitigated given the interest of the city to develop additional affordable units, Alley Flats, close to the urban core. On projects with constrained financing, a significant cost such as a water utility connection upgrade will significantly affect the feasibility of the project. This research assumes a project contingency of 2% of estimated construction cost added to the soft costs of the project in order to account for unexpected costs and expenses during development and construction (Ogershok, 2003).

PROPERTY OPERATIONAL EXPENSES ASSUMPTIONS

Exemptions and Property Taxes

Building an ADU on a legacy homeowner property, regardless of its rental affordability, translates to a $60,436 average increase to the appraised value of the property, or an 18% increase of appraised property values. Higher property values will increase the legacy homeowner's property tax burden. The average increase in appraised value is explained later in this chapter (Figures 3.5 and 3.6 summarize these findings).

A vast majority of legacy homeowners in 2012, in the Chestnut-Rosewood (90%) and ECC–Holly (94%) study areas, had homestead exemptions in place (PODER, 2012). Similarly, in both study areas about two thirds of legacy homeowners had homestead exemptions for adults over age 65 or older in place (PODER, 2012). Homestead exemptions provide relief of tax burden to property owners by reducing the assessed property value upon which property taxes are levied. In Texas, taxation policy offers a property tax Homestead exemption of up to 20%. The City of Austin has set its homestead exemption rate to 6% for FY 2016 (Green, 2015). The tax exemption for adults over 65 years of age is related to school district taxes; it sets a ceiling for school taxes, which may not increase as long as no major improvements are completed on the property. Over 65 age exemptions are less prevalent and less consistent over time than the Homestead exemptions in the study sample. Consequently the financing scenarios only assume 6% Homestead exemption on the appraised property values.

Homestead exemptions do not apply to the entire property value once an ADU is constructed on a Homestead exemption eligible property if the ADU is being rented. Only if the ADU is treated as an extension of the homeowner's homestead will Homestead exemption extend to the appraised value of the ADU (CoA CDC, 2015).

Since this research is interested in the financing mechanisms for the development of Alley Flats, affordable rental ADU units, the financing scenarios will only apply Homestead exemption to the value of the property's main housing unit.

Property taxes for the 2015-2016 City of Austin Budget were set to 45.89 cents per $100 property valuation (Green, 2015). Data from Travis County's Taxation Summary reveals that, in the last five fiscal years, City of Austin property tax rates have ranged from the current value of 45.89 cents per $100 of valuation up to 50.29 cents per $100 of valuation in 2012. The financing scenarios will assume a constant property tax rate as set for FY 2016.

PROPERTY VALUES BEFORE AND AFTER ADU CONSTRUCTION

Legacy Homeowners in Major East Austin Neighborhoods

The scenarios for financing in this research, as previously mentioned in the Research Focus section of this Chapter, are based upon legacy homeowners benefitting from the additional income from the rental of an ADU on their property while assuming the provision of affordable housing. Estimating land and property values of legacy properties is relevant in order to set up financing scenarios—especially in order to understand the pre-qualification for financing options and property tax burden to legacy homeowners.

In April 2012, PODER, People Organized in Defense of Earth and Her Resources, and the East Austin Conservancy released a report titled "Land of Broken Dreams & Land of Opportunity" (PODER, 2012). The report reveals homeownership trends related to property value increase and its effects on affordability to legacy homeowners. The report is centered on the Chestnut, East Cesar Chavez, Holly and Rosewood Neighborhoods of East Austin. The rate of change of housing in these neighborhoods is calculated by establishing a baseline of legacy homeowners, those who have property ownership between 1992 and 2002, and comparing the baseline to 2012 TCAD, Travis County Appraisal District, property ownership data. Among other metrics, the report provides a Market Value Analysis for properties owned by legacy homeowners, those who have remained property owners in 2012 since the 1992 baseline.

Using the baseline data for the Chestnut-Rosewood Neighborhood sample of PODER's report, the ownership and assessment values for 77 legacy homeowner properties identified in these neighborhoods in 2012 were updated using 2015 TCAD data. Between 1992 and 2012, 42.5% legacy homeowner properties, 57 out of 134

properties, changed ownership (PODER, 2012). During the same twenty years, 77 legacy homeowners remained in place. Between 2012 and 2015, 27.3% of the legacy homeowner properties, 21 out of 77 properties, changed ownership. Cumulatively, between 1992 and 2015, more than half of legacy homeowner properties, 58% of properties to be precise, changed ownership.

Following the same methodology applied to update the Chestnut-Rosewood dataset, the 331 legacy properties identified in 2012 on the East Cesar Chavez and Holly neighborhoods by the Land of Broken Dreams report were updated by consulting 2015 TCAD data. According to the report, between 1992 and 2012, 32.2% of the legacy homeowner properties, 157 out of 488 properties, changed ownership (PODER, 2012). During the same twenty years, 331 legacy homeowners remained in place, which was the baseline for the 2015 update. Between 2012 and 2015, 18.7% of the legacy homeowner properties, 62 out of 331 properties in these neighborhoods, changed ownership. Cumulatively, between 1992 and 2015, 44.9% of legacy homeowner properties in the East Cesar Chavez and Holly neighborhoods study areas have changed ownership.

Table 3.2, in the next page, summarizes the analysis of legacy homeownership change in time. Based on the baseline group, those that retained ownership from 1992 to 2002, for the Chestnut-Rosewood and East Cesar Chavez-Holly neighborhood study areas, the table presents property counts for legacy and non-legacy properties for analysis time periods of 2002-2012, 2012-2015, and 1992-2015. The table includes the aggregated totals for property count and legacy homeownership change for both study areas. In both study areas combined, the number of legacy homeowner properties has decreased by 38.7% between the years of 2002 and 2015. Understanding the housing market dynamics of Austin during the same time, we can safely assume that this significant change

translates to the loss of affordable housing units in East Austin, part of the urban core of the city. Legacy homeowners with deeds from 1992 and before likely located in these neighborhoods due to the affordability of housing at the time and relative proximity to Austin's downtown.

		1992 -2002	2002 - 2012		2012-2015		1992-2015	
	Legacy Homeowners (homowners owned their property in 1992 and 2002)		Legacy Homeowners (2012)	Properties with ownership exchange (2012)	Legacy Homeowners (2015)	Properties with ownership exchange (2015)	1992-2002 Legacy Homeowners	2015 Legacy Homeowners
Chestnut - Rosewood Neighborhoods Study Area								
Property Count	134		77	57	56	21	**134**	**56**
Legacy Homeowner % Change			-42.5%		-27.3%		**-58.2%**	
East Cesar Chavez - Holly Neighborhoods Study Area								
Property Count	488		331	157	269	62	**488**	**269**
Legacy Homeowner % Change			-32.2%		-18.7%		**-44.9%**	
Aggregated Total (study areas combined)								
Property Count	622		408	214	325	83	622	325
Legacy Homeowner % Change			-34.4%		-20.3%		**-47.7%**	

Table 3.2 – Legacy Homeownership Change In Selected Areas Summary

The increased demand for housing in the urban core and associated increase of land and property values in Austin has limited affordability of historically affordable neighborhoods, such as those previously studied. Neighborhoods with significant rates of

homeownership and affordability loss are a critical part of the research focus, as explained at the beginning of the chapter. Figure 3.1 illustrates the accumulated homeownership rates of change in the neighborhoods in this study. The average annual rate of homeownership change is almost double in the last three years as it had been between 2002 and 2012. The acceleration in the average annual rate of change of homeownership in these neighborhoods in East Austin suggests that housing affordability measures must be considered to preserve the composition of communities in the area.

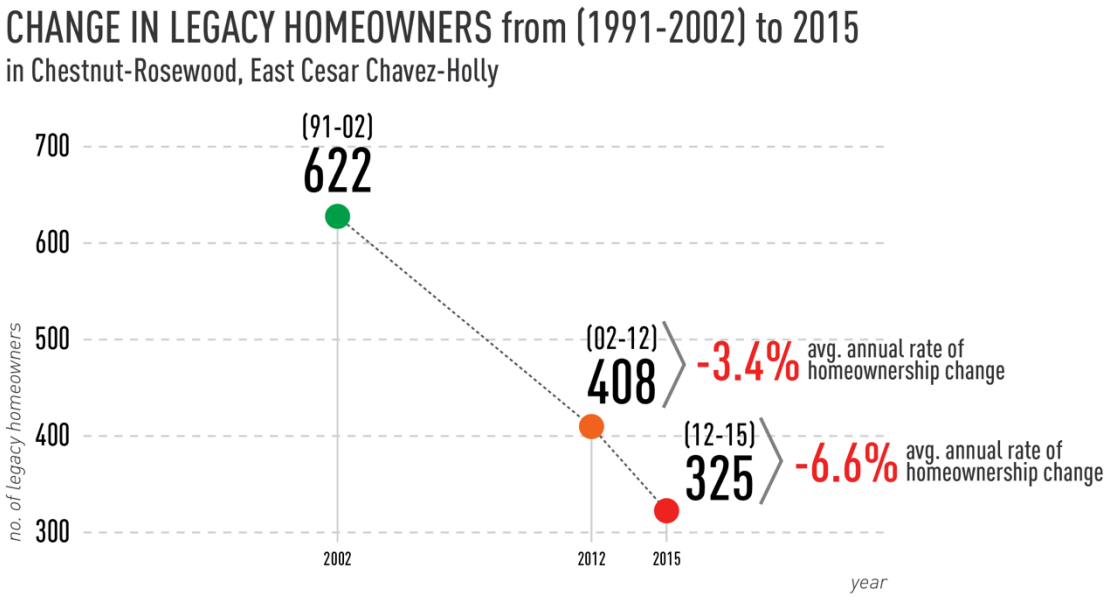


Figure 3.1 – Change in Legacy Homeowners since 1991, the figure shows the average annual rate of homeownership rate.

Before ADU: Areas And Appraised Values For Legacy Homeowner Properties In Major East Austin Properties

	Area (sqf)		2015 TCAD Appraisal Values (US$)		
	Land Area	Improvement Area	Land Value	Improvement Value	Accumulated Value
Chestnut - Rosewood Neighborhoods Study Area					
Average Values	7,154	1,183	$ 139,714	$ 112,868	$ 252,583
Minimum	3,023	544	$ 120,000	$ 44,904	$ 178,094
1st Quartile	5,221	890	$ 120,000	$ 89,429	$ 221,314
Median	6,140	1,077	$ 120,000	$ 107,560	$ 240,238
3rd Qaurtile	7,147	1,308	$ 150,000	$ 122,240	$ 270,976
Maximum	21,061	3,028	$ 210,000	$ 317,458	$ 527,458
East Cesar Chavez - Holly Neighborhoods Study Area					
Average Values	6,354	1,239	$ 183,337	$ 145,921	$ 329,259
Minimum	2,256	520	$ 102,000	$ 3,776	$ 165,335
1st Quartile	5,465	919	$ 170,000	$ 107,501	$ 281,096
Median	6,630	1,136	$ 200,000	$ 139,656	$ 329,081
3rd Qaurtile	6,951	1,440	$ 200,000	$ 178,045	$ 375,211
Maximum	27,055	4,158	$ 398,160	$ 383,379	$ 622,605
Study Areas Combined					
Average Values	**6,490**	**1,230**	**$ 175,821**	**$ 140,226**	**$ 316,047**
Minimum	2,256	520	$ 102,000	$ 3,776	$ 165,335
1st Quartile	5,256	914	$ 150,000	$ 102,449	$ 256,470
Median	6,555	1,128	$ 200,000	$ 132,009	$ 312,029
3rd Qaurtile	6,985	1,418	$ 200,000	$ 170,173	$ 364,925
Maximum	27,055	4,158	$ 398,160	$ 383,379	$ 622,605

Table 3.3 – Land and improvement areas and values before ADU construction in selected study areas (all lots)

We collected land and improvement value data for legacy homeowner properties in 2015, simultaneous to the update of legacy homeownership status in the two study areas of East Austin. Table 3.3, found in the previous page, presents a summary of finding for appraised values, in addition to each neighborhood's land and improvement square footage. Data for each of the two neighborhood study areas and for both study areas combined is reported using a 5 number summary method and average of values.

Financing scenario baseline assumptions for improvement and land areas and values conform to the combined values recorded from the Chestnut-Rosewood and East Cesar Chavez-Holly study areas. Outlier minimum and maximum values in the samples could result in a misleading median value for the land & improvement areas and appraisal values recorded. In consequence, the average values for land & improvement areas and appraised values will be used for the financing scenarios.

Average legacy homeowner property land & improvement areas for both study areas combined are 6,490 sq ft and 1,230 sq ft, respectively. As for 2015 legacy homeowner properties, average land & improvement TCAD Appraisal Values, in both study areas combined, are $175,821 and $140,226, respectively. When aggregating both neighborhood study areas, the average land plus property improvement TCAD Appraisal value for a legacy homeowner property in 2015 is $316,047.

Not every one of the legacy homeowner properties remaining in the East Austin study areas is eligible for ADU development. From the 325 legacy homeowner properties remaining in the study areas in 2015, only 230 properties are equal to or larger than 5,750 sq ft in land area. City of Austin regulations allow ADU construction by right on SF-3 zoned lots 5,750 sq ft in area or larger. Approximately 71% of the legacy homeowners in the study areas are eligible to develop ADUs in their properties by right. Previous City of

Austin ordinances allowing ADUs, by right, on SF-3 lot areas equal or greater than 7,000 sq ft would have only enabled 81 out 325 legacy homeowners to develop ADUs. Had ADU regulations not been changed in November 19th, 2015 by City Council, only 25% of the identified legacy homeowners would have been able to develop, construct, and perceive the economic benefits of rental income from an ADU in their property. More considerations go into ADU feasibility, but, by only limiting feasibility to zoning district and lot size, regulation changes have increased by approximately 45% the number of legacy homeowners who could potentially build an ADU, including possibly an Alley Flat, on their properties.

While the impact of regulatory loosening is evident, note that the Neighborhood Districts in the study area had special use infill options in place that allowed for ADUs in lots 5,750 sq ft or larger (see Appendix 4, special infill CoA document). The 45% increase in lots with ADUs allowed by right in the study area may shed light onto the effect of regulation changes in neighborhoods without infill options and tools in place.

	Area (sqf)		2015 TCAD Appraisal Values (US$)		
	Land Area	Improvement Area	Land Value	Improvement Value	Accumulated Value
Study Areas Combined					
Average Values	**6,490**	**1,230**	**$ 175,821**	**$ 140,226**	**$ 316,047**
ADU Eligible Properties (Lot Area 5,750 sq ft or greater)					
Average Values	**7,378**	**1,312**	**$ 188,653**	**$ 153,993**	**$ 342,647**
Avg, Value Differences	888	83	$ 12,833	$ 13,767	$ 26,600

Table 3.4 – Average areas and appraisal values for all study areas and for ADU eligible properties only

Table 3.4 presents and contrasts area and appraisal average values for (1) study areas combined and (2) ADU-eligible properties within the combined study areas. When compared, the average appraised values and areas for all legacy homeowner properties and those eligible to build an ADU by right present some important differences. Given that lots with areas smaller than 5,5750 sq ft are removed from the sample for ADU-eligible properties, the average land area increases by 888 sq ft, averaging 7,378 sq ft. Similarly, improvements increased by 83 sq ft, averaging 1,312 sq ft for ADU-eligible properties. Because land and improvement areas increased in this sample, we can assume that average appraisal values for ADU-eligible properties will be greater than those for the sample including all legacy homeowner properties combined. In fact, data shows that average appraised value of land and improvement combined for ADU-eligible properties

is $342,647. In other words, average appraised value of legacy homeowner properties eligible for ADU construction is 8.2% higher than the average appraised value of all legacy property owners in the study area.

The financing scenarios make use of average land and improvement areas and appraised values for the group of legacy homeowner properties with land areas of 5,750 sq ft or larger—properties eligible for ADU construction by right (see Table 3.4).

After ADU: Estimated Appraised Values For Existing Properties With ADUs In Study Area Neighborhoods

The most thorough evaluation of existing ADUs in Austin was performed in 2008 by The University of Texas at Austin School of Architecture in collaboration with the Center for Sustainable Development (CSD, 2008). In the 2008 Report on The Alley Flat Initiative, data from TCAD's property roll was processed using GIS analysis in order to arrive at an approximate per neighborhood count of ADUs and Alley Flats. Average values for ADU, primary home and land are also provided.

TCAD seeks to fairly determine property values. As such, TCAD land and improvement values can be used as measures of market values. The average ADU, primary home and land reported in 2008 for SF-3 lots with existing ADUs located in Chestnut, Rosewood, East Cesar Chavez, and Holly neighborhoods is projected to follow historical trends of home values in Austin. Based on historic listing and sales data, Zillow, an online real estate portal, provides a city-wide Home Value Index dating back to 2007 and projecting as far as one year in the future. More than the actual home value, we are interested in the percent increase of home value between 2008 and 2015 in order to project the findings of the 2008 Alley Flat report onto approximate current property values for properties within the study area and ADUs built on the lot.

Figure 3.1 is a chart showing historical home values in Austin according to Zillow. Appendix 4 defines and introduces the methodology behind the Zillow home value tool. All homes, from studios to 5+ bedroom single-family residential properties are included in the dataset displayed. In general, we can observe a steady increase in home values in Austin during the 2008-2016 period. One can identify the characteristic real estate cycles in the graph; peaks in value followed by decreased values due to oversupply. Then, housing supply decreases, given the slowing down of housing unit

production. Bumps are followed by increased market value due to housing unit production resuming, a given location becoming more attractive to population, among many other factors. These cycles are fairly consistent but they happen amidst a fairly consistent overall increase in home values across time. In January 2008, the average home value in Austin, according to this dataset, was $215,000. By contrast, in January 2016, Zillow estimated the average home value in Austin to be $291,000. In eight years, between 2008 and 2016, the average home value in Austin increased by $76,000, or 35.3%. Refer to Appendix 4 and Figure 3.2 for more information about the Zillow Home Value Index and how it is calculated. Readers must consider that Zillow's Home Value Index includes the greater Austin area, not only the urban core. More than likely, the rate of value increase in central Austin is greater than the greater area of the city. In an ideal scenario, this estimate would be done using property sales data of the relevant neighborhoods in order to gauge the increase in property value. However, such data is not readily available to the researchers given that the State of Texas does not require disclosure of property transactions by law.

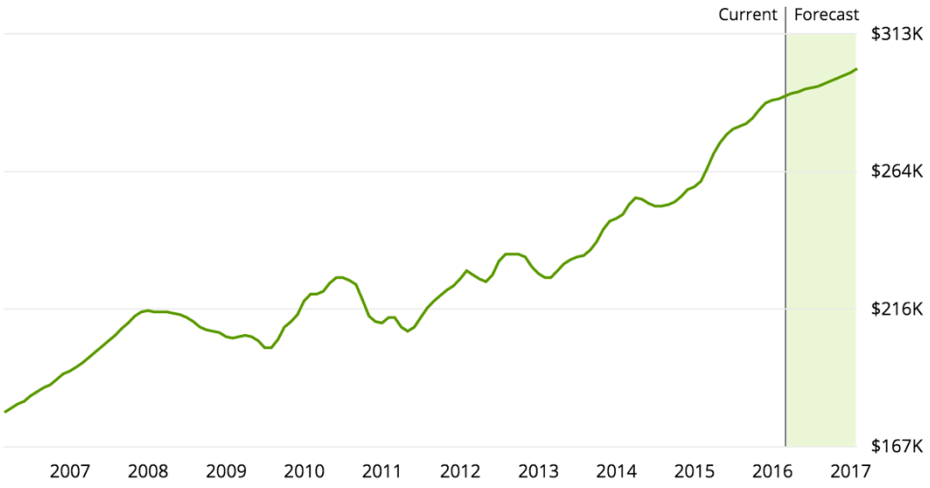


Fig 3.2 – Austin home values over time (extracted from Zillow Home Value browser)

Table 3.5 presents a summary of count, ADU value, primary home value, and land value for SF-3 lots with existing Accessory Dwelling units as reported by the 2008 Report on The Alley Flat Initiative. All four relevant neighborhoods are listed. Then, average values for all four neighborhoods are combined and projected to 2016 values using a 35.3% city-wide home value increase, determined from Zillow historical home value data.

SF-3 Lots With Existing ADU Units

	Total # of Parcels w/ADUs	Average ADU Value	Average Primary Home Value	Average Land Value	Average Improvement Value	Average Total Market Value
Chestnut - Rosewood Neighborhoods Study Area						
Chestnut Neighborhood	118	$ 42,231	$ 78,188	$ 98,197	$ 122,099	$ 220,296
Rosewood Neighborhood	60	$ 44,016	$ 85,970	$ 91,469	$ 131,813	$ 223,282
Chestnut - Rosewood Combined	**178**	**$ 43,124**	**$ 82,079**	**$ 94,833**	**$ 126,956**	**$ 221,789**
East Cesar Chavez - Holly Neighborhoods Study Area						
East Cesar Chavez Neighborhood	119	$ 48,275	$ 83,086	$101,269	$ 138,185	$ 239,454
Holly Neighborhood	119	$ 43,887	$ 89,565	$106,547	$ 135,179	$ 241,726
ECC - Holly Combined	**238**	**$ 46,081**	**$ 86,326**	**$103,908**	**$ 136,682**	**$ 240,590**
Aggregated Total (study areas combined)						
2008 Values	**416**	**$ 44,602**	**$ 84,202**	**$ 99,371**	**$ 131,819**	**$ 231,190**
2015 Values		**$ 60,436**	**$114,094**	**$134,647**	**$ 178,615**	**$ 313,262**
(35.5% Home Value Increase)						

Table 3.5 – Existing ADUs in neighborhood study areas in 2008 and 2015 projected property values

The analysis done in the 2008 Alley Flat Initiative Report reveals the Average ADU Value for SF-3 Lots with Existing ADU lots at the time. In order to estimate the average value for an ADU completed in 2016, the average ADU value for the four neighborhoods in 2008 was calculated and, then, adjusted to the 35.5% average home value increase previously explained. An average appraised value for completed ADUs in of $60,436 will be assumed and added to the average legacy homeowner property appraised values in the study area (see Table 3.5). The average property value for a legacy homeowner property without an ADU, according to the analysis summarized in Table 3.4, is $342,647. Financing scenarios will assume a post-ADU construction appraised property value of $403,083.

OPERATIONAL AND CAPITAL EXPENSES

Operating expenses (OpEx) and capital expenses (CapEx) for the financing scenario are set at 4% of the ADU net rental income. Operational expenses related to utilities in the ADU are assumed to be carried by those leasing the property. The utility costs associated with the ADU are considered as part of the tenant's living costs and count towards the 30% of income living cost for S.MA.R.T Housing (see Property Operational Revenue Assumptiona Section).

INSURANCE COSTS

According to the National Association of Insurance Commissioners, the average annual value for home insurance costs in Texas for 2015 was $1,661, which translates to roughly $138 per month (Stutz, 2015). Adjusting insurance costs due to the addition of an

ADU to the property according to ACCDC experience, the financing scenarios in this research estimate a monthly insurance expense of $158.

PROPERTY OPERATIONAL REVENUE ASSUMPTIONS

Rental Revenue

The Alley Flat Initiative model calls for compliance with S.M.A.R.T. Housing rent provisions. S.M.A.R.T Housing stands for Safe, Mixed Income, Accessible, Reasonably Priced, and Transit Oriented Housing. The policy initiative is run by the City of Austin and is designed to stimulate the production of housing for low and moderate income residents of Austin (CoA Neighborhood Housing and Community Development, 2008). As previously mentioned in this chapter, legacy homeowners who choose to develop an Alley Flat with ACDDC benefit from a reduction on professional design fees. From a S.M.A.R.T Housing perspective, by committing to adjust ADU rents to the policy's guidelines, legacy homeowners benefit from an expedited permit review process and save up to 100% of the fees associated with permitting, estimated at about $1,500 per ADU developed.

The Alley Flat Initiative financial model complies with the S.M.A.R.T Housing policy affordability requirement for "reasonably-priced" rental units. The legacy homeowner agrees to preserve the ADU unit on "reasonably-priced" rental rates for at least 5 years after completion. Rental rates for S.M.A.R.T Housing are based on Median Family Income (MFI) for the Austin-Round Rock MSA (see Appendix 6). MSA stands for Metropolitan Statistical Area. MSAs are defined by the Federal Office of Management and Budget and typically used by the Census Bureau for statistical purposes. An MSA is a geographically significant area with an urban core, which has significant economic relationships with its surroundings. Under the policy, rents charged to tenants must not exceed 30% of the tenant's income. Tenants of S.M.A.R.T Housing

"reasonably-priced" rental units must not earn more than the 80% of the Austin-Round Rock MFI.

For the purposes of the financial models to be developed, rental revenue will be modeled based on the 80% MFI for a 2 person household, assuming that the 1,100 sq ft ADU will be rented by a minimum of two people. The 80% MFI for a 2 person household in the Austin-Round Rock MSA is $49,200. Rental rates are capped at 30% of gross income. Since operational expenses for the landlord do not account for ADU-related utility costs and tenant housing costs must not exceed 30% of their income, in addiction, and according to City of Austin S.M.A.R.T. Housing Manual (see Appendix 7), tenant utility costs are estimated at 2% of their living expenses. Consequently, for the purposes of the financial models in this research, Alley Flat Initiative rental is limited to 28% of the tenant's income, which is based on "reasonably-affordable" S.M.A.R.T Housing policy provisions results in annual gross rent revenue of $13,776 and a monthly gross rent revenue of $1,148.

CHAPTER 4: FINANCING AN ADU: CROWDFUNDING SCENARIO

Development Costs			
Hard Costs (HC)			
Construction Cost (per sq ft)	$	151	
Total Construction Cost	$	166,100	
Soft Cost (SC)			
Design Fee (5% HC)	$	8,305	
Contingency (2% HC)	$	3,322	
Land Cost (LC)			
Total Development Cost	$	177,727	

Operational Revenue & Expenses			
Revenue			
Rent Income			
80% MFI for Austin-RR MSA	$	49,200	/ yr
S.M.A.R.T. Housing Rent	$	13,776	/ yr
28% of tenant MFI (2% for operations allocated to tenant)	$	1,148	/ mo
Expenses			
Property Insurance	$	158	/ mo
Operational Expenses (2% PGI)	$	23	/ mo
Capital Expenses (2% NOI)	$	17	/ mo
ADU Property Tax	$	126	/ mo
Main Unit Property Tax	$	671	/ mo

ADU Characteristics			
Building Area		1100	sq ft
Avg. ADU Value (2016)	$	60,436	

Property Characteristics			
Legacy homeowner properties: no deed changes since 1992 in Rosewood/Chestnut, ECC/Holly neighborhoods in East Austin. Parcels consideresd are 5,750sq ft or larger.			
Before ADU Completion			
avg. parcel area		7378	sq ft
avg. improvement area		1312	sq ft
avg. appraised value	$	342,646	
avg. land value	$	188,653	
avg. improvement value	$	153,993	
After ADU Completion			
parcel area		7378	sq ft
improvement area		2412	sq ft
appraised value	$	403,082	

Property Tax			
Tax Rate		2.50%	
Homestead Exemp. Rate		6.00%	
After ADU Completion			
Total MV	$	403,082	
ADU MV	$	60,436	
ADU Property Tax	**$**	**1,511**	**/ yr**
	$	**126**	**/ mo**
Land + Improvement MV	$	342,646	
Homestead Exemp. (-6%)	$	322,087	
Main Unit Property Tax	**$**	**8,052**	**/ yr**
	$	**671**	**/ mo**

Table 4.1 – ADU development costs and operational expenses and revenue

Table 4.1 summarizes the assumptions for development costs and operational expenses and revenue streams explained throughout Chapter 3. These assumptions are based upon values for developing an ADU on legacy homeowner properties. Values are

estimations for properties located in the Chestnut-Rosewood and East Cesar Chavez-Holly neighborhoods study areas. The revenue model is based on providing "reasonably-priced" rental housing for, at least, the first 5 years after project completion following S.M.A.R.T. housing.

Table 4.2 sums up the projected cashflow proforma resulting from the development of an ADU on legacy a legacy homeowner's parcel. After accounting for OpEx, property taxes related to the new ADU only, CapEx and CapEx contingency, a total of $807 per month remains available to the landlord. The Net Cash Flow From Operations should, at least, cover the debt service for the development. Preferably, the cash flow after debt service will exceed the amount needed to simply break even, leaving some cash flow for the legacy homeowner to fund property taxes on the main unit.

Potential Revenue	**ADU**	**MAIN UNIT**
Rent Revenue	$ 13,776 / yr	owner income
Potential Gross Income (PGI)	$ 13,776 / yr	N/A
(-) Operational Expenses	**$ 2,172** / yr	N/A
(-) Property Taxes	$ 1,511 / yr	$ 8,052 / yr
Net Operating Income (NOI)	$ 10,094 / yr	
	$ 841 / mo	
Potential Expenses		
(-) CAPEX (2% NOI)	$ 202 / yr	
(-) CAPEX Contingency (2% NOI)	$ 202 / yr	
Net Cash Flow From Operations	$ 9,690 / yr	
	$ 807 / mo	

Table 4.2 – Summary of Potential Revenue And Expenses After ADU Development

FINANCING SCENARIO: REAL ESTATE CROWDFUNDING

Earlier in this thesis, Chapter 2 presented the findings from an analysis of 3 real estate equity crowdfunding platforms. Its findings were summarized in Table 2.1. I now integrate those findings with the specifics of ADU project development.

The relationship of real estate equity crowdfunding and residential development, be it multifamily or single family, is quite evident from the platforms analysis. Development of ADUs aligns with the tendency of real estate equity crowdfunding platforms to fund residential projects. Projects seeking crowdfunding are mostly associated with renovations of existing properties. While the construction of an ADU is not exactly a renovation project, it can be considered an improvement project.

No ADU development projects were found across the 167 projects reviewed during the real estate equity crowdfunding platform analysis. While the absence of ADU development projects in these platforms may be perceived as a challenge for ADU projects to be successful in the equity crowdfunding market, it may also present an opportunity to attract investors due to its innovative character. In fact, Maketto, one of the pioneering projects in the real estate crowdfunding market, which is discussed in the Fundrise section of Chapter 2, exhibits similarities with ADU development as an urban infill project. The innovative and local character of the project attracted investors in the community. ADUs developed in legacy homeowner properties have a potential associated social equity outcome: enabling historic neighbors to remain in their homesteads and, in the case, providing a new "reasonably-affordable" rental-housing unit in the urban core. These associated outcomes may attract the interest of progressive investors looking for opportunities to invest in projects with positive community and individual social impact.

In Chapter 2, the uncertainty regarding social impact of crowdfunded projects is discussed. A project funded through the Groundfloor platform is highlighted as the only project with clear social impact purpose in the entire sample of investment opportunities surveyed. As described in Chapter 2, the project secured a $75,000 loan to renovate a blighted home that housed a Atlanta Police Department officer after completion.. This project in Atlanta is evidence that investors are willing to sacrifice maximizing their return of investment in return for a project's social outcomes.

The real question is to what extent the structure of real estate crowdfunding platforms and the investment opportunities they offer are appropriate for the development of Alley Flats in legacy homeowner properties—a development product with guaranteed social equity outcomes related to housing affordability and community preservation.

DEFINING AN APPROPRIATE CROWDFUNDING FINANCE TYPE

As discussed in Chapter 2, every real estate equity crowdfunding platform has different profiles of investment opportunities, developer types, and financing products for borrowers. Two main types of products are available in real estate equity crowdfunding: equity investments and peer-to-peer loans. Equity investments provide investors with equity on a property: they participate in the cash flow of the property and appreciation when the property is sold. Peer-to-peer loans work like a traditional loan only in that they are financed by "peers," in this case, individuals pooling their capital via the online platform to fund the loan product. Like in a traditional loan, peer-to-peer loans pay interest and are secured by real property.

By contrast, equity investment opportunities are geared towards larger development projects backed by institutional or corporate developers. Certain platforms such as Fundrise, one of the three platforms analyzed in Chapter 2, or RealtyMogul are

known for focusing on this kind of investment product and partnerships. On the other hand, certain platforms such as Patch of Land, also one of the platforms reviewed in Chapter 2, mostly provide peer-to-peer lending opportunities.

The development of Alley Flats on legacy homeowner properties does not conform to the equity type of real estate crowdfunding investment deals. Peer-to-peer loans, however, initially appear to provide appropriate conditions for legacy homeowners to finance the construction of an Alley Flat on their properties. Findings from the platform analysis in Chapter 2 reveal that the type of borrower that customarily uses peer-to-peer lending platforms conforms to the profile of independent and entrepreneurial builders and developers. Borrowers of this profile are especially prevalent in the investment opportunities available via Patch of Land. The analysis of real estate equity crowdfunding's potential as an alternative financing mechanism for Alley Flat development in legacy homeowner properties will be evaluated based on the crowdlending model, in other words, peer-to-peer lending.

ASSUMPTIONS FOR FINANCING VIA CROWDFUNIDNG LENDING

Patch of Land's platform loans are based on Loan To Value Ratio (LTV) and After Repair Values (ARV). LTV requirements establish that LTV must not exceed 80%, which in turn demands a minimum downpayment of 20%. On the other hand, Patch of Land will offer products lending up to 70% of ARV. Given the before and after ADU completion property values (see Table 4.1), the total construction cost of $177,727 does not exceed the 70% ARV rule and would require a minimum downpayment of of $36,612, once origination and closing fees are considered.

Compared to other traditional means of financing, equity crowdfunding deals have shorter payback terms. The platform analysis revealed terms starting at 6 months

and up to 5 years. Logically, shorter terms translate to higher payments by the borrower. Higher debt premium payments translate in compromised affordability for the borrower, in this case the legacy property owner. To minimize debt premiums, loan terms will be maximized, based on data collected for the real estate crowdfunding platform analysis, and assumed to be 5 years.

Typical Annual Return on Investment (ROI) for equity crowdfunding and crowdlending platforms varies depending on the platforms and the type of product. In Chapter 2, findings reveal that ROIs on products from the three platforms analyzed can vary from as low as 6.0% to as high as 25.8%. The 146 Ericson project, in Atlanta, GA, presented at the end of Chapter 2, demonstrated that projects with social equity outcomes and a strong organizational support behind it could achieve funding through crowdfunding at lower rates. The police housing initiative exemplified in the 146 Ericson project offered an ROI of 7.0%. Via a telephone conversation, a Patch of Land representative commented on plans to release mid-term products by May 2016 with ROIs as low as 6.5% and terms as long as 5 years. Given the precedent of 146 Ericson St., the financing model for ADUs in this chapter will assume an ROI of 7.0%.

Crowdfunding platforms charge borrowers service fees, also known as origination and closing fees. In general, results from the survey of platforms presented in Chapter 2 showed that platforms typically apply service fees between 3 and 4 points. For the purposes of the model in this chapter we will assume service fees in the lower end of the range: 3%.

Mid-Term Crowdfunding Lending Model		
Construction Cost	$	177,727
ROI		6.5%
Max. LTV		80%
Origination and Closing Fees		3.0%
	$	5,332
Term		5 yrs
Loan Amount	$	183,059
Equity Needed	$	36,612
Principal After Downpayment	$	146,447
PMT (Excel)		
Annual Payment	-$	35,240
PMT (Formula)		
k		0.2406
Annual Payment	$	35,240

Table 4.3 – Summary Of Assumptions For Crowdfunding Loan

Table 4.3 summarizes the assumptions previously explained in this section. The origination and closing fees from the crowdfunding platform add $5,332 to the loan amount, totaling $183,059. In this scenario, the downpayment required for the loan amount is $36,612.

Two methods are used to compute annual payment for the loan. The first method used Microsoft Excel PMT function. The second method used was to calculate the k value from which to derive an annual payment. Both methods estimate the five-year loan term would require an annual payment of $35,240.

DEBT SERVICE ON PROPERTY CASH FLOW

Once the annual debt service is taken into consideration on the property's ADU Net Cash Flow from Operations, the financing model of crowdfunding peer-to-peer

lending does not appear to be a viable option for legacy homeowners interested in building Alley Flats in their properties. Table 4.4 shows Before Tax Cash Flow (BTCF) for the development of an ADU under previously explained assumptions.

AFI + Main Unit Cashflow Proforma

Potential Revenue	**ADU**	**MAIN UNIT**
Rent Revenue	$ 13,776 / yr	owner income
Potential Gross Income (PGI)	$ 13,776 / yr	N/A
(-) Operational Expenses	**$ 2,172** / yr	N/A
(-) Property Taxes	$ 1,511 / yr	$ 8,052 / yr
Net Operative Income (NOI)	$ 10,094 / yr	
	$ 841 / mo	
Potential Expenses		
(-) CAPEX (2% NOI)	$ 202 / yr	
(-) CAPEX Contingency (2% NOI)	$ 202 / yr	
Net Cash Flow From Operations	$ 9,690 / yr	
	$ 807 / mo	
(-) Annual Debt Service	$ 35,240 /yr	
Before Tax Cash Flow (BTCF)	-$ 25,550 /yr	
	-$ 2,129 /mo	

Table 4.4 – Before Tax Cash Flow Summary

The annual debt service almost quadruples the property's net cash flow from operations. Assuming no vacancy and maximized S.M.A.R.T. Housing rental rates, a best-case scenario for revenue, BTCF for the project is -$25,550. The legacy homeowner carries on the burden of debt service. The legacy homeowner must also be able to pay the main unit's property tax estimated on $8,052. The net cash flow from operations of the

ADU could fund the property tax of the main unit and guarantee that the legacy homeowner could afford housing costs on his or her property. However, once debt service from a mid-term crowdfunding peer-to-peer lending product is in place, the project is clearly not financially viable.

FINDINGS AND RECOMMENDATIONS

Initially, real estate crowdfunding platforms appeared to provide an opportunity for alternative financing. Upon analyzing three different crowdfunding platforms and building a scenario for ADU financing using a crowdfunded peer-to-peer loan, findings show that, at this time and under current terms, real estate crowdfunding platforms don't offer a financing alternative from traditional lending mechanisms.

1. The findings of this research are limited to the evaluation of crowdfunding loans products, also known as peer-to-peer lending, modeled after the platforms analyzed in Chapter 2. Equity crowdfunding may be a viable option for financing Alley Flats in the future. However, at this time, a homeowner-led and managed project such as an ADU does not fit with the equity crowdfunding products offered in any of the three platforms studied.
2. Crowdfunding loans still requires significant downpayments. Maximum LTV ratios vary from platform to platform, but generally do not exceed 80%. Under such terms, a legacy homeowner would have to afford a downpayment of $36,612 in order to build a 1,100sq ft ADU in his or her property. Equity crowdfunding and crowdfunded peer-to-peer loans are similar to traditional lending products; they require significant equity from the borrower in order to approve financing.
3. Loan terms are vary from platform to platform, as explained in Chapter 2. Peer-to-peer lending models may extend as long as 5 years. Traditional home purchase

mortgages offer up to 30 years of financing which translate to far lower debt service payments compared to those from crowdfunding loans.

4. Groundfloor, one of the crowdfunding platforms analyzed, does not finance owner-occupied projects or consumer financing. After understanding the debt service premiums associated with a crowdfunding platform, Groundfloor's business model appears logical. Developers and firms with an interest to improve property in order to refinance or sell it would be interested in short-term and high-interest financing, not homeowners. Borrowers need significant capital, cashflow or refinancing in place in order to afford the hefty debt services of a crowdfunding loan or to even afford an interest only crowdfunding loan with balloon payment. As the platform analysis in Chapter 2 shows, a great share of projects relying on crowdfunding financing is managed by professional real estate organizations. These projects tend to have a refinancing or improvement and sale ultimate purpose. Professional real estate organizations have access to capital to afford crowdfunding financing during the project's completion and manage to profit from the projects completion once refinanced or sold.

CONCLUDING OBSERVATIONS

Regardless of how they are referred to or what their development model is Secondary Dwelling Units in Austin, TX and elsewhere in the United States face a challenge stronger than that of zoning regulations. In Austin, TX allowing for larger ADUs on more lots will not be enough incentive to encourage the fulfillment of the original Alley Flats vision—ADUs that can preserve legacy homeownership and provide medium-term rental affordability in the urban core. In the case of Alley Flats and ad-hoc

real estate development of ADUs, financing mechanisms of the units remain the largest limitation to the promise of Alley Flats and ADUs in the city.

Limitations around ADU development via traditional funding mechanisms have been previously presented in this research. Even as Fannie Mae and Freddie Mac begin to recognize rental income as part of the debt-to-income ratio of debtors, other limitations will continue to hamper ad-hoc developer access to traditional lending capital. For instance, the lack of appropriate property records on ADUs in cities will limit the capacity of lenders to evaluate proposed ADUs. Typically, lenders will compare a proposed asset with similar assets in the surroundings of a given site. We can safely assume that numerous ADUs have been developed over many years and many have not been appropriately registered. On the other hand, ADUs may not be considered an individual property type in many county property tax registries—such as is the case in Travis County. For traditional lending mechanisms to finance ADUs under the same conditions as other property types, then, ADU properties must be properly recorded and the data necessary for lending assessment to be completed needs to be publicly available and transparent.

Even once ADUs become a mainstream property type and asset class, and traditional lending mechanisms become more easily accessible for ad-hoc developers, borrowers with similar limitations than those legacy homeowners face will remain having difficulty accessing traditional means of financing. The down payment requirement and credit pre-classification completed by creditors are two examples of barriers upon the development of ADUs within programs such as the Alley Flat Initiative. City of Austin offers a Down Payment Assistance Program (DPA) that provides deferred 0% interest loans to eligible first-time homebuyers in the city. A similar program attached to

increased long-term rental affordability could be set up for legacy homeowners planning to build Alley Flats on their properties. The concern of lender credit history and qualification is a more complex one that would require further collaboration between lenders and stakeholders promoting ADU development and, specifically, ADU development models with social equity in mind.

Findings of this research reveal that crowdfunding is not a viable alternative financing mechanism for the development of ADUs. Initially, crowdfunding presented potential to overcome some of the limitations previously discussed. However, the findings of the Alley Flat proforma demonstrate that under current conditions, the real estate crowdfunding platform models studied offer no opportunities for the Alley Flat model to find funding consistent with its goals. The financing offered by real estate investment crowdfunding platforms has short-term paybacks that limit legacy homeownership affordability and favor a "fix-and-flip" approach to ADU development. Further research that compares real estate crowdfunding financing models to traditional means of real estate financing may provide a better picture of the crowdfunding financing sector. Many questions remain to be answered including, what kinds of developers are benefitting from real estate crowdfunding? And is the real estate crowdfunding model a predatory lending model similar to the payday loan model?

While these questions and considerations apply to the larger context of real estate development and its relationship to crowdfunding financing, crowdfunding platforms focused on projects and organizations with social and environmental agendas may offer a window of opportunity for alternative financing to the Alley Flat model. Platforms such as iOby or Kiva may be the appropriate platforms to seek alternative funding for projects such as the Alley Flat Initiative. At this time, mainstream real estate investment

crowdfunding platforms do not offer the appropriate long-term and preferential financing conditions for projects with affordability in mind. Until leading real estate crowdfunding platforms, such as those included in this research, in the equity and peer-to-peer lending sectors provide alternative financing conditions and pre-qualification requirements to special projects, such as Alley Flats, they will not deliver feasible financing packages for projects concerned with prolonging homeownership and housing affordability.

GLOSSARY

Real Estate Development: industry sector and business activities related to activities surrounding the dealing of real estate property, buildings or land. Real Estate Development can involve the selling, buying or leasing of real estate property, and the entire process of completion of a built project, from conception through funding, construction and completion.

Community-oriented Real Estate Development: refers to the sector of the real estate development industry dedicated to projects related to serving social purposes in local communities. Community-oriented Real Estate Development projects, such as affordable housing, are typically initiated and executed by not-for-profit organizations or social entrepreneurs.

Ad-hoc Real Estate Development: refers to sectors of the real estate investment industry related to projects of small scale and for individual property owner interest and benefit. These projects are not large in scale but shape most of the development in existing communities: they are owner initiated and operated. Projects include renovations and additions to existing properties and grounds.

Auxiliary Dwelling Units (ADUs): also known as granny flats, in-law unit, casita, backyard cottages, secondary dwelling units (SDU), carriage houses, back houses and many other terms, ADUs are a form of small and self-contained urban infill housing. ADUs share site with and function independently from a larger single-family unit.

The Alley Flat Initiative (AFI): a collaboration between University of Texas Center for Sustainable development, Guadalupe Neighborhood Development Corporation, and the Austin Community Design and Development Center that started in the early 2000s. The goal of the Initiative is to create flexible and self-perpetuating delivery system for sustainable and affordable housing in Austin, in the form of ADUs.

Reasonably Affordable Rental ADUs: property owners who are part of the AFI benefit from reduced professional design fees and City of Austin express permitting and fee exemptions in exchange from a commitment to preserve the ADU unit rental "reasonably affordable". Affordability standards are set by City of Austin S.M.A.R.T. Housing policy. As of 2016, S.M.A.R.T. Housing minimum standard for reasonable affordable rental rates is set according to Median Family Income (MFI) in the Austin-San Marcos MSA. At least for the first 5 years of rental, an Alley Flat should be rented to families earning no more than 80% MFI, and rates should not exceed 30% of the family's income.

Legacy homeowner properties: property owners in East Austin neighborhoods of Chestnut, Rosewood, Holly and East Cesar Chavez, whose property deeds have not changed between 1992 and 2002, and continued unchanged since, according to TCAD tax assessment data. Many of them hold property of their homestead prior to 1992. Since they are long-time residents of their communities, they are assumed to have chosen to live in East Austin because of the affordability of the area at the time. As such, and as findings suggest, they are homeowners at risk of moving from their homesteads due to affordability pressures. The financial model of this research is based upon assumptions from this group of homeowners in Austin.

Crowdfunding: financial contributions from a large number of online investors, sponsors or donors to finance for-profit or non-profit initiatives or enterprises.

Patron Crowdfunding: form of crowdfunding by which those involved are funding a project or initiative as a philanthropic action. Two major trends are noticeable in patron crowdfunding (1) the donation-type, and (2) the reward-based mode—where donations are rewarded by some kind of recognition, product or credit upon completion of funding for the project.

Equity Crowdfunding: form of crowdfunding by which investors are given equity, they own a portion of the business, and will perceive the returns or losses of the venture according to the asset's performance.

Peer-to-peer Lending or Debt Crowdfunding: form of crowdfunding by which those involved become issuers of funding in the form of debt and are guaranteed payments set to conditions agreed upon in advance.

APPENDICES

Appendix 1: RS Means Cost Estimator Sheet

Appendix 2: RS Means City Cost Indexes

Appendix 3: CoA Special Infill Document (excerpt)

Appendix 4: Zillow Home Value Index Methodology

Appendix 5: CoA MFI Affordability Limits

Appendix 6: CoA SMART Housing Manual (excerpt)

APPENDIX 1: RS MEANS COST ESTIMATOR SHEET

	Square Foot Cost Estimate Report		Date:	3/1/16
Estimate Name:	ADU_2			
Building Type:	Custom 1 Story with Brick Veneer - Wood Frame			
Location:	NATIONAL AVERAGE			
Story Count:	1			
Story Height (L.F.):	8			
Floor Area (S.F.):	1100			
Labor Type:	RES			
Basement Included:	No			
Data Release:	Year 2015 Quarter 4	Costs are derived from a building model with basic components.		
Cost Per Square Foot:	$183.70	Scope differences and market conditions can cause costs to vary significantly.		
Building Cost:	$202,064.65			

		% of Total	Cost Per S.F.	Cost
01 Site Work		1.16%	1.76	1,939.43
	Footing excavation, building, 26' x 60', 4' deep		1.76	1,939.43
02 Foundation		12.29%	18.6	20,459.20
	Footing systems, 12" thick by 24" wide footing		2.82	3,106.31
	Block wall systems, 12" wall, grouted, full height		11.93	13,121.11
	Floor slab systems, 4" thick slab		3.85	4,231.78
03 Framing		15.86%	24	26,397.50
	Floor Framing Systems, 2" X 10", 16" OC, pre 1945 homes		10.86	11,947.88
	Exterior wall framing systems, 2" x 6", 24" OC		3.14	3,456.19
	Gable end roof framing systems, 2" x 6" rafters, 16" OC, 4/12 pitch		7.57	8,325.57
	Partition framing systems, 2" x 4", 16" OC		2.43	2,667.86
04 Exterior Walls		18.47%	27.95	30,743.25
	Brick/stone veneer systems, buff or grey face brick		13.75	15,122.13
	Non-rigid insul, batts, fbgls, kraft faced, 3-1/2" thick, R13, 23" W		0.67	736.9
	Non-rigid insul, batts, fbgls, kraft faced, 12" thick, R38, 23" wide		1.45	1,598.42
	Windows, double-hung, plastic clad premium insul glass, 2'-6" x 3'		4.12	4,528.99
	Trim, interior casing, window, 2'-6" x 3'		0.42	467.05
	Paint or stain, interior or exterior, 2' x 3' window, primer & 2 coats		0.46	510.81
	Caulking, window, 2'-6" x 3'		0.21	227.04
	Grilles, glass size to, 16" x 24" per sash		0.8	883.39
	Drip cap, aluminum, 2' long		0.04	40.34
	Door systems, colonial, 6 panel, 3' x 6'-8", wood		3.39	3,730.92
	Storm door, wood, combination, storm & screen, crossbuck, 2'-8" x6'-9"		1.19	1,310.93

	Windows, aluminum, double hung, anodized, basement, 2'-0" x 3'-5"		1.44	1,586.33
05 Roofing		**5.47%**	**8.28**	**9,107.53**
	Gable end roofing, wood, cedar shingles no. 1 perfections, 18" long		8.28	9,107.53
06 Interiors		**21.12%**	**31.96**	**35,152.74**
	Wall system, thincoat, skim-coat, on 1/2" backer drywall		7.34	8,069.30
	Wall system, thincoat, skim-coat, on 1/2" backer drywall		2.9	3,186.34
	Thincoat, skim coat on 1/2" backer gypsum wallboard ceilings		2.62	2,886.35
	Raised panel, solid, pine door, interior		7.9	8,693.76
	Resilient flooring, vinyl tile, 12" x 12", 1/8" thk, maximum		0.37	408.23
	Resilient flooring, prefinished, oak, 2-1/2" wide		5.67	6,238.42
	Resilient flooring, sleepers, treated, 16" OC, 1" x 3"		0.98	1,080.95
	Resilient flooring, subfloor, plywood, 1/2" thick		0.27	301.28
	Resilient flooring, subfloor, plywood, 5/8" thick		1.58	1,736.41
	Resilient flooring, subfloor, plywood, 5/8" thick		0.16	173.64
	Resilient flooring, ceramic tile, color group 2, 2" x 2" or 2" x 1"		2.16	2,378.08
07 Specialties		**10.75%**	**16.27**	**17,902.48**
	Kitchen, custom grade		12.96	14,256.12
	Sinks, porcelain on CI single bowl, double bowl, 20" x 32"		1.23	1,353.79
	Water heater, gas, 75 gallon		1.75	1,923.54
	Medicine chest with mirror, 36" x 24"		0.34	369.03
08 Mechanical		**12.18%**	**18.43**	**20,269.12**
	Three fixture bathroom with lavatory installed in vanity		6.16	6,779.02
	Vanity base cabinet, 2 door, 24" x 30"		0.87	961.77
	Vanity top, laminated plastic square edge 25" x 32"		0.59	646.06
	Furnace, gas heating/cooling, 100 MBH heat, 36 MBH cool, to 1200 SF		6.9	7,594.83
	Intermittent pilot, 100 MBH furnace		0.16	173.54
	Supply duct, rectangular, area to 1200 SF, rigid fiberglass		0.74	812.62
	Return duct, sheet metal galvanized, to 1500 SF		0.91	1,000.45
	Lateral ducts, flexible round 6" insulated, to 1200 SF		0.83	915.16
	Register elbows, to 1500 SF		0.53	581.68
	Floor registers, enameled steel w/damper, to 1500 SF		0.26	291.32
	Return air grille, area to 1500 SF 12" x 12"		0.09	98.7
	Thermostat, manual, 1 set back		0.11	126.49
	Refrigerant piping, 25 ft. (precharged)		0.26	287.49
09 Electrical		**2.71%**	**4.09**	**4,503.90**

200 amp electric service	1.94	2,129.27
Duplex receptacles using non-metallic sheathed cable	2.16	2,374.63
1.00-Full bath - including plumbing, wall and	8	8,795.00
1.00-Range 21" free standing, 1 oven	0.58	637
1.00-Counter top ranges 4 burner standard	1.18	1,302.00
1.00-Microwave oven	0.57	626
1.00-Washing machine, automatic	1.64	1,807.00
1.00-Dryer, automatic	1.84	2,027.00
1.00-Garbage disposal	0.24	269
1.00-Heater, electric, built-in, 1250 watt wall type	0.32	352
1.00-Refrigerator, no frost, 10-12 C.F.	0.53	587
4.00-Fixed Picture Windows, 3'-6" x 4'-0"	2.31	2,540.00

SubTotal	**100%**	**$168.56**	**$166,475.14**
Contractor Fees (General Conditions,Overhead,Profit)	**10.00%**	**$15.13**	**$16,647.51**
Architectural Fees	**0.00%**	**$0.00**	**$0.00**
User Fees	**0.00%**	**$0.00**	**$0.00**
Total Building Cost		**$183.70**	**$202,064.65**

** Indicates Assemblies or Components have been customized.

Audit Trail Notes

There are no audit trail notes associated with this estimate.

APPENDIX 2: RS MEANS CITY COST INDEXES

City Cost Indexes ~ Year 2015 Quarter 4

DIVISION		SOUTH DAKOTA															
		MITCHELL			MOBRIDGE			PIERRE			RAPID CITY			SIOUX FALLS			WATERTOWN		
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
015433	CONTRACTOR EQUIPMENT		101.2	101.2		101.2	101.2		101.2	101.2		101.2	101.2		102.3	102.3		101.2	101.2
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	100.1	92.1	94.4	100.0	92.1	94.4	103.1	92.4	95.5	101.4	92.3	94.9	92.9	94.0	93.7	99.9	92.1	94.4
0310	Concrete Forming & Accessories	94.6	37.0	44.9	85.1	37.0	43.6	98.5	39.5	47.6	103.4	36.7	45.9	100.3	47.1	54.4	81.7	36.6	42.8
0320	Concrete Reinforcing	99.7	46.3	72.5	102.3	38.1	69.6	101.2	71.2	86.9	93.8	71.3	82.4	101.2	71.3	86.0	97.0	38.2	67.1
0330	Cast-in-Place Concrete	116.2	41.4	85.5	116.2	43.8	86.5	113.8	42.8	84.7	115.3	42.0	85.2	96.2	44.9	74.6	116.2	45.0	87.0
03	CONCRETE	109.3	42.0	76.2	109.1	41.4	75.9	106.7	48.4	78.1	108.6	46.9	78.3	98.0	52.5	75.7	108.0	41.7	75.4
04	MASONRY	111.5	53.3	75.2	121.0	55.4	80.1	123.6	56.1	81.5	121.1	56.4	80.8	101.7	58.0	74.5	151.0	57.4	92.7
05	METALS	91.6	70.4	85.1	91.7	70.4	85.1	95.9	85.8	92.8	94.3	86.4	91.9	93.6	86.2	91.3	91.6	70.7	85.2
06	WOOD, PLASTICS & COMPOSITES	97.2	36.3	63.1	86.0	36.0	58.0	105.4	36.5	65.8	102.2	33.1	63.5	100.1	46.6	70.1	82.1	35.8	56.1
07	THERMAL & MOISTURE PROTECTION	100.1	48.9	79.1	100.2	51.1	80.0	100.7	50.4	80.1	100.7	50.6	80.2	100.3	53.4	81.1	99.9	51.4	80.0
08	OPENINGS	102.2	37.1	87.1	105.0	36.2	89.0	109.3	46.6	94.7	107.3	44.7	92.7	109.7	52.0	96.3	102.2	36.3	86.9
0920	Plaster & Gypsum Board	116.0	34.8	61.2	110.0	34.6	59.0	106.4	35.1	58.2	117.2	31.6	59.3	101.4	45.4	64.5	107.1	34.3	57.9
0950, 0980	Ceilings & Acoustic Treatment	88.3	34.8	53.2	92.5	34.6	54.4	95.1	35.1	55.7	94.2	31.6	53.0	90.1	45.4	60.7	88.3	34.3	52.8
0960	Flooring	102.7	50.3	87.7	97.9	53.3	85.2	107.3	35.8	86.9	102.4	78.6	95.6	104.1	78.2	96.7	96.4	50.3	83.2
0970, 0990	Wall Finishes & Painting/Coating	101.6	40.6	64.8	101.6	41.7	65.4	109.7	44.6	70.4	101.6	44.6	67.2	105.9	44.6	69.3	101.6	37.1	62.7
09	FINISHES	97.0	39.3	65.2	95.7	39.9	64.9	101.0	37.8	66.2	98.5	43.7	68.3	97.8	52.0	72.6	93.9	38.6	63.5
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	92.6	37.1	81.4	92.6	44.7	82.9	92.6	76.2	89.3	92.6	75.2	89.1	92.6	77.4	89.5	92.6	40.0	82.0
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	88.2	39.6	68.6	88.2	40.4	69.0	90.9	68.9	82.0	91.1	68.0	81.8	90.9	43.1	71.6	88.2	42.6	69.8
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	112.5	44.0	76.3	114.4	44.9	77.6	119.4	51.8	83.7	110.4	51.8	79.4	112.2	77.3	93.8	111.5	49.3	78.6
MF2014	WEIGHTED AVERAGE	97.8	49.0	76.6	98.5	49.8	77.3	101.3	60.4	83.5	99.9	60.7	82.8	97.8	61.6	82.0	99.0	50.8	78.0

DIVISION		TENNESSEE																	
		CHATTANOOGA			COLUMBIA			COOKEVILLE			JACKSON			JOHNSON CITY			KNOXVILLE		
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
015433	CONTRACTOR EQUIPMENT		108.9	108.9		103.2	103.2		103.2	103.2		109.7	109.7		102.4	102.4		102.4	102.4
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	103.6	96.7	98.7	89.0	87.1	87.6	94.6	84.3	87.3	97.5	97.1	97.2	110.6	83.8	91.6	90.1	86.5	87.5
0310	Concrete Forming & Accessories	97.5	59.4	64.6	82.9	65.7	68.1	83.0	35.7	42.2	90.2	45.8	51.9	83.4	38.9	45.0	95.8	63.1	67.6
0320	Concrete Reinforcing	85.0	67.4	76.1	83.8	63.1	73.3	83.8	63.2	73.3	83.8	69.9	76.7	85.6	65.6	75.4	85.0	65.8	75.2
0330	Cast-in-Place Concrete	107.8	63.6	89.7	100.9	51.6	80.6	114.3	43.4	85.2	111.6	73.0	95.8	86.7	59.9	75.7	101.3	66.8	87.1
03	CONCRETE	103.9	64.5	84.5	103.5	62.4	83.3	114.8	46.3	81.1	104.5	62.2	83.7	114.3	53.8	84.6	101.1	65.9	84.3
04	MASONRY	111.1	52.4	74.5	127.7	54.6	82.2	122.0	43.0	72.8	128.0	45.5	76.6	126.3	43.3	74.6	87.2	54.6	66.9
05	METALS	95.7	97.6	96.3	91.5	96.7	93.1	91.6	96.4	93.1	93.8	99.5	95.6	93.0	96.0	93.9	96.2	97.1	96.5
06	WOOD, PLASTICS & COMPOSITES	114.0	61.0	84.3	76.8	68.4	72.1	77.1	33.5	52.7	94.0	45.2	66.7	84.4	36.8	57.7	99.0	62.9	78.8
07	THERMAL & MOISTURE PROTECTION	98.6	63.3	84.1	93.4	65.3	81.9	93.9	54.3	77.7	95.7	60.9	81.4	93.5	54.7	77.6	91.5	65.3	80.8
08	OPENINGS	103.9	59.6	93.6	95.8	60.7	88.4	96.9	42.7	84.2	104.1	53.9	92.5	100.1	46.6	87.7	97.8	60.9	89.2
0920	Plaster & Gypsum Board	88.0	60.5	69.4	89.9	68.0	75.1	89.9	32.1	50.8	92.1	44.1	59.7	108.4	35.5	59.1	116.1	62.4	79.8
0950, 0980	Ceilings & Acoustic Treatment	99.6	60.5	73.9	78.1	68.0	71.5	78.1	32.1	47.9	86.5	44.1	58.6	95.0	35.5	56.2	96.8	62.4	74.2
0960	Flooring	105.4	59.7	92.3	89.6	22.9	70.5	89.7	58.6	80.8	88.9	40.8	75.1	100.1	40.6	83.1	105.6	53.8	90.8
0970, 0990	Wall Finishes & Painting/Coating	109.8	63.4	81.8	93.0	63.4	75.1	93.0	63.4	75.1	94.9	63.4	75.9	105.8	63.4	80.6	106.8	63.4	80.6
09	FINISHES	99.6	59.8	77.7	90.9	58.1	72.8	91.4	41.3	63.8	91.2	45.2	65.8	103.3	40.3	68.6	97.0	61.1	77.2
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	92.6	42.1	82.4	92.6	56.1	85.2	92.6	40.6	82.1	92.6	50.8	84.2	92.6	77.9	89.6	92.6	84.5	91.0
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	91.3	62.7	79.7	89.4	80.3	85.7	89.4	74.8	83.5	91.2	68.8	82.1	90.9	59.1	78.1	90.9	68.5	81.9
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	114.1	73.6	92.7	103.1	57.5	79.0	104.7	64.8	83.6	109.6	58.5	82.6	104.1	46.4	73.6	110.2	57.4	82.3
MF2014	WEIGHTED AVERAGE	99.3	68.3	85.8	96.6	69.3	84.1	96.9	61.5	81.5	98.4	64.7	83.7	99.3	57.8	81.2	96.0	68.6	84.0

DIVISION		TENNESSEE									TEXAS								
		MCKENZIE			MEMPHIS			NASHVILLE			ABILENE			AMARILLO			AUSTIN		
		MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL	MAT.	INST.	TOTAL
015433	CONTRACTOR EQUIPMENT		103.2	103.2		108.7	108.7		107.4	107.4		94.7	94.7		94.7	94.7		94.0	94.0
0241, 31 - 34	SITE & INFRASTRUCTURE, DEMOLITION	94.3	84.4	87.3	92.8	94.4	93.9	98.5	94.9	96.9	100.9	90.7	93.7	97.3	89.7	91.9	100.4	88.9	92.2
0310	Concrete Forming & Accessories	91.2	38.1	45.4	95.7	68.3	72.2	97.1	67.5	71.6	100.0	65.8	70.5	97.1	57.1	62.6	97.6	58.4	63.8
0320	Concrete Reinforcing	84.0	69.8	76.8	91.8	70.2	80.8	90.1	67.7	78.7	97.9	52.2	74.6	107.2	51.8	79.0	96.8	51.8	73.9
0330	Cast-in-Place Concrete	111.9	57.1	89.4	99.9	78.8	91.2	96.2	66.2	83.9	100.9	65.0	86.2	93.0	64.9	81.4	102.0	66.9	87.6
03	CONCRETE	113.2	53.3	83.8	103.9	74.3	89.3	97.9	69.0	83.7	98.2	63.9	81.3	97.9	59.9	79.3	100.4	61.1	81.1
04	MASONRY	126.6	46.2	76.5	101.7	57.0	73.8	94.4	58.0	71.7	105.4	63.7	79.4	104.9	57.5	75.4	107.4	57.4	76.2
05	METALS	91.6	98.9	93.9	99.5	102.0	100.3	94.8	98.8	96.0	102.7	75.2	94.2	97.1	74.4	90.1	97.7	73.0	90.1
06	WOOD, PLASTICS & COMPOSITES	86.2	36.1	58.1	104.8	69.9	85.2	110.5	68.4	86.9	110.8	68.5	87.1	107.9	57.1	79.5	100.3	58.8	77.1
07	THERMAL & MOISTURE PROTECTION	93.8	49.0	75.5	96.2	69.4	85.2	93.2	67.1	82.5	98.2	68.6	86.1	94.2	64.6	82.0	96.8	66.3	84.3
08	OPENINGS	96.9	46.4	85.1	102.3	69.5	94.7	105.3	69.4	97.0	108.8	63.2	98.2	112.4	57.0	99.5	113.3	56.0	100.0
0920	Plaster & Gypsum Board	93.1	34.8	53.7	104.2	69.4	80.6	99.4	68.0	78.2	93.3	68.0	76.2	103.7	56.3	71.7	94.0	58.1	69.8
0950, 0980	Ceilings & Acoustic Treatment	78.1	34.8	49.6	97.7	69.4	79.1	94.9	68.0	77.2	88.1	68.0	74.9	96.6	56.3	69.8	85.3	58.1	67.4
0960	Flooring	92.8	39.3	77.5	104.3	57.2	90.8	103.2	62.2	91.5	108.3	76.5	99.2	109.5	65.6	96.9	102.8	65.6	92.2
0970, 0990	Wall Finishes & Painting/Coating	93.0	49.6	66.8	101.4	63.4	78.5	109.7	63.4	81.7	103.2	56.1	74.7	98.2	56.1	72.8	104.9	48.8	71.0
09	FINISHES	92.6	38.1	62.6	98.0	65.3	80.0	103.0	65.7	82.5	91.8	67.0	78.1	95.1	58.1	75.2	92.2	58.4	73.6
COVERS	DIVS. 10 - 14, 25, 28, 41, 43, 44, 46	92.6	27.1	79.4	92.6	84.8	91.1	92.6	84.8	91.1	92.6	84.3	90.9	92.6	80.9	90.3	92.6	83.0	90.7
21, 22, 23	FIRE SUPPRESSION, PLUMBING & HVAC	89.4	69.0	81.2	91.0	74.5	84.3	91.0	84.1	88.2	91.2	50.6	74.8	91.0	54.9	76.4	90.9	60.1	78.5
26, 27, 3370	ELECTRICAL, COMMUNICATIONS & UTIL.	104.5	62.9	82.5	113.5	65.3	88.1	109.3	64.8	85.8	110.4	60.2	83.8	110.0	64.3	85.9	109.3	64.0	85.3
MF2014	WEIGHTED AVERAGE	97.1	60.7	81.2	98.6	74.4	88.1	97.3	75.5	87.8	99.0	64.9	84.1	98.4	63.4	83.2	98.7	64.5	83.8

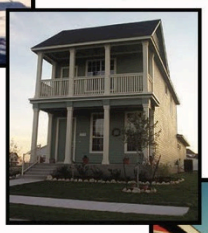
APPENDIX 3: COA SPECIAL INFILL DOCUMENT

Special Use Infill Options and Design Tools Available Through the Neighborhood Plan Combining District (NPCD)
June 2014

Neighborhood Mixed-Use Building

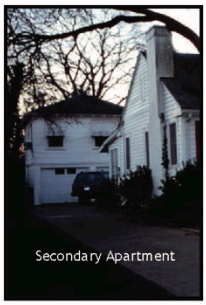
Corner Store

Neighborhood Urban Center



Urban Home

Residential Infill



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SECONDARY APARTMENT

Applied Neighborhood-Wide or within Sub-Districts

LDC Chapter 25-2-1461 through 1463

DESCRIPTION

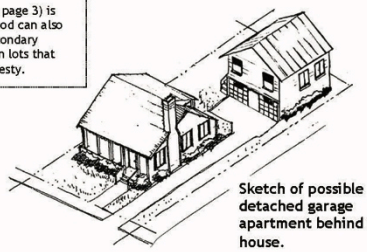
The Secondary Apartment special use permits a second dwelling unit 850 square feet or less in size on a lot with a minimum area of 5,750 square feet. If chosen, this accessory unit is permitted in SF-1 through SF-3, SF-5, SF-6 and MF-1 through MF-6zoning districts, and in the mixed use (MU) combining district Currently, a second unit with very similar regulations is permitted city-wide on lots at least 7,000 square feetin the SF-3, SF-5 through MF-6 zoning districts. Choosing the Secondary Apartment special use opens up the opportunity for homeowners with lot sizes between 5,750 square feet and 7,000 square feet and those in the SF-1 and SF-2 zoning districts to build a second unit.

The Secondary Apartment may be located above a detached garage, or at least 15 feet away from the principal single-family house. . Regulations for the secondary apartment supersede base district regulations, including impervious cover and height limits:

- Orientation of Entrance: Must be on the side of the structure that is the greatest distance from the corresponding side lot line.
- Parking: One space required (in addition to the parking required for the principal single-family house).

NEW OPTION:
If small lot amnesty (see page 3) is selected, the neighborhood can also choose to permit the Secondary Apartment Special Use on lots that qualify for small lot amnesty.

Example of Secondary Apartment in Plum Creek, Kyle, Texas



Sketch of possible detached garage apartment behind main house.

Continue SECONDARY APARTMENT

Site Development Regulations

Additional Site Development Regulations *:

- May be connected to the principal structure by a covered walkway
- May not have an entrance within 10 feet of a lot line
- Orientation of Entrance: Must be on the side of the structure that is the greatest distance from the corresponding side lot line.
- May not exceed a height of 30 feet, and is limited to two stories
- May not exceed a gross floor area of 850 total square feet, or 550 square feet on the second story, if any
- Impervious cover for the site may not exceed 45%
- Building cover for the site may not exceed 40%
- Parking: Two spaces required (in addition to the parking required for the principal single-family house). Possible 20% reduction if located within Urban Core.
- Other than in a driveway, parking is prohibited in the front yard
- Vehicular access: Unless the secondary apartment has vehicular access from a rear alley, it must be served by a paved driveway. The portion of the driveway that crosses the front yard must be at least 9 feet and not more than 12 feet wide.

Occupancy Limit*

- Not more than four unrelated persons 18 years of age or older may reside in the principal structure, and not more than two unrelated persons 18 years of age or older may reside in the second dwelling unit. ***(Sec. 25-2-511 Dwelling Unit Occupancy Limit)***

*Site Development Regulations and occupancy limit are the same for the secondary apartment (or "two-family use") allowed city-wide on lots 7,000 square feet or greater.

APPENDIX 4: ZILLOW HOME VALUE INDEX METHODOLOGY

What's the Zillow Home Value Index?

Extracted from: http://www.zillow.com/wikipages/What's-the-Zillow-Home-Value-Index/

Before we tackle the Zillow Home Value Index, be sure to learn about the Zestimate home valuation, since this is the building block for the Zillow Home Value Index. A Zestimate is Zillow's estimate of the current market value for a home. We have tens of millions of Zestimates - one for most homes. Our data is refreshed regularly to reflect real estate transactions that could affect you - even if you're not buying or selling a house.

OK, so what's the Zillow Home Value Index?

The Zillow Home Value Index is the median Zestimate valuation for a given geographic area on a given day.

> See the Zillow Home Value Index in your area

Say again?

Essentially, it is the middle point. Exactly half the Zestimates for a region are below this number and half the Zestimates are above it. It is expressed in dollars and is for a particular geographic region (e.g., Zillow Home Value Index = $125,441 forBaltimore on Aug. 18, 2009).

Can you give me another example?

Sure. Let's take Seattle. On Aug. 19, 2009, the Zillow Home Value Index for single-family homes in Seattle was $373,714, which means half the homes have values less than $373,714 and half have values greater than $373,714.

So, how do you create the Zillow Home Value Index?

With lots of data. For example, suppose there are 101 homes in your county. Zillow would create a Zestimate for each of these homes. We then arrange all 101 Zestimates from lowest value to highest and, starting from the smallest value, we would pick the middle one - the 51st - and this would be the Zillow Home Value Index for your county on that particular day.

What's the difference between this and averaging the figures? Wouldn't that be more logical and helpful?

The median Zestimate is much less sensitive to extreme values than the average Zestimate (here, "average" refers to the mean). Look at these two examples and you can see why.

Example 1:

$230,000, $232,000, $242,000, $243,000, $250,000

In this series of Zestimate numbers above, the Zillow Home Value Index is $242,000 (the value in the middle) and the average is $239,000 (add all the numbers together and divide by 5).

Example 2:

$230,000, $232,000, $242,000, $243,000, $923,000

If you change just one number by a large amount, it skews the data. In the numbers above, the Zillow Home Value Index is still $242,000, but the average is now $374,000. Therefore, the median of $242,000 is arguably a better representation of all five numbers than is the average of $374,000.

Since housing data has lots of extreme values in it, the median is a better representation of the general level of the housing market than the average.

Where do you get the data to create the Zillow Home Value Index?

We receive this data from counties and other municipalities, though not all jurisdictions make it available. However, we are adding data all the time. So be sure to check back.

How does the Zillow Home Value Index affect my home?

In many ways! If the Zillow Home Value Index for your county is $215,000 today and was $210,000 yesterday, this means that a typical home in your area is worth more today than yesterday. So, if you're thinking of selling, you can evaluate your own home relative to the surrounding market, or if you're buying, you can learn what's happening in other markets.

How is neighborhood appreciation calculated?

The rate of appreciation on these levels of geography - ZIP code, county, state, U.S. - is based on the Zillow Home Value Index. Cumulative appreciation is the simple ratio between today's Zillow Home Value Index and the Index for a reference period (e.g., the Zillow Home Value Index one, five or 10 years ago).

How often is the Zillow Home Value Index updated?

The Zillow Home Value Index is updated at the same time that we update Zestimates. These updates reflect new real estate transactions that affect an area's Zillow Home Value Index.

Is the Zillow Home Value Index the best indicator of tracking real estate markets?

We feel it is, because with the Zestimate, we have an estimate of the current value of every home in the area and, thus, can estimate what the median sale price of the whole area would be if every home were sold on the same day: It would approximately equal the median Zestimate, or Zillow Home Value Index for that area.

If someone didn't use the Zillow Home Value Index, what would they use?

One popular method is using the median sale price of homes over a certain period of time, such as a month. While interesting, this measure is problematic because it is influenced by the mix of housing sold in the period of time associated with the metric.

For example, if high-end homes were not selling very well, but mid-range homes were, then the median sale price will be lower than it should be. It will not be an accurate reflection of the "general" level of home values because the median is taken from the set of mid-range home sales that happened in the period, ignoring the high-end homes that didn't sell. The median sale price would be a perfectly accurate reflection of home values in an area if every home were bought and sold in the particular time period. Since this is highly unlikely, the median sale price is biased to the extent that the homes sold in a given period are not completely representative of all the homes in the area.

OK, I think I got it. So, how do I find the Zillow Home Value Index for where I live?

Go to the "Homes" tab and enter your address. Then click on the address in the map bubble, then "See home info," the "Zestimate & Charts." The Zillow Home Value Index is located under "How This Home Stacks Up." Remember -- a Zillow Home Value Index can apply to the following geographic levels: ZIP code, city, county, state and U.S.

For more on methodology visit:
http://www.zillow.com/research/zhvi-methodology-6032/

APPENDIX 5: COA MFI AFFORDABILITY LIMITS

City of Austin, Neighborhood Housing and Community Development Office
P.O. Box 1088, Austin, Texas 78767
(512) 974-3100 Fax (512) 974-3161 www.cityofaustin.org/housing

FY 2015 Area Median Family Income
For Travis County, Texas
$76,800 (4-person household)
MSA: Austin – Round Rock, TX.

2015 HOME Program Income Limits by Household Size
Effective Date: June 1, 2015

Median Income Limit	1 Person Household	2 Person Household	3 Person Household	4 Person Household	5 Person Household	6 Person Household	7 Person Household	8 Person Household
20%	10,750	12,300	13,800	15,360	16,600	17,800	19,050	20,300
* 30%	16,150	18,450	20,750	24,250	28,400	32,550	36,750	40,900
*(30% MFI is defined by HUD as **extremely low-income**)*								
40%	21,500	24,600	27,650	30,720	33,200	35,650	38,100	40,550
* 50%	26,900	30,750	34,600	38,400	41,500	44,550	47,650	50,700
*(50% MFI is defined by HUD as **very low income**)*								
* 60%	32,250	36,850	41,450	46,080	49,750	53,450	57,150	60,850
65%	34,950	39,950	44,950	49,920	53,900	57,900	61,900	65,900
70%	37,650	43,000	48,400	53,760	58,050	62,350	66,650	70,950
* 80%	43,050	49,200	55,350	61,450	66,400	71,300	76,200	81,150
*(80% MFI is defined by HUD as **low-income**)*								
100%	53,750	61,450	69,100	76,800	82,950	89,100	95,250	101,400
120%	64,500	73,750	82,950	92,160	99,550	106,900	114,300	121,650
140%	75,250	86,000	96,750	107,520	116,100	124,700	133,300	141,950

*** Income provided by HUD.**
Other income limits calculated by NHCD based on the formula used by HUD.
HUD rounds to the nearest $50 dollars
MFI Chart was expanded to include other percentages used by NHCD.

APPENDIX 6: COA SMART HOUSING MANUAL (EXCERPT)

S.M.A.R.T. Housing™ Policy

Safe • Mixed Income • Accessible • Reasonably Priced • Transit Oriented

Resource Guide

Prepared by:

Neighborhood Housing and Community Development

City of Austin
P.O. Box 1088
Austin, Texas 78767
512/974.3100
www.cityofaustin.org/housing

Revised June 2008

1

S.M.A.R.T. HOUSING™ POLICY

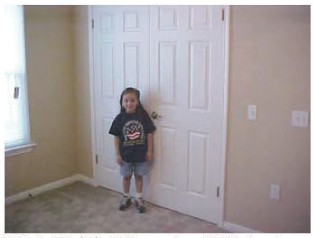
A. Overview

The **S.M.A.R.T.™** (**S**afe, **M**ixed-Income, **A**ccessible, **R**easonably-priced, **T**ransit-Oriented) **Housing** Policy Initiative is designed to stimulate the production of housing for low and moderate income residents of Austin. The housing meets the City's Green Building standards and is located in neighborhoods throughout the City of Austin.

S.M.A.R.T. Housing™ staff work with developers and builders of single-family, multi-family, and mixed-use developments that meet **S.M.A.R.T. Housing™** standards. The City of Austin provides fee waivers and **S.M.A.R.T. Housing™** development review, typically significantly faster than conventional review. This initiative includes not only larger developments but also infill construction.

The goals of **S.M.A.R.T. Housing™** include:

- Provide waivers of development fees (including Permit, Capital Recovery, Construction Inspection, and Parkland Dedication) to promote the development of **S.M.A.R.T. Housing™**
- Use public resources to leverage private investment
- Stimulate the development of housing on vacant lots in new and existing subdivisions
- Promote the use of existing City infrastructure and services
- Promote the creation of alternative funding sources for the development of **S.M.A.R.T. Housing™** (Safe, Mixed-Income, Accessible, Reasonably-Priced, and Transit-Oriented)




*(Left: Southwest Trails, the first **S.M.A.R.T. Housing™** development in West Austin, has 160 units which rent to families from 80% to 50% Median Family Income, or lower. Center: One of the beneficiaries of **S.M.A.R.T. Housing™** stands in the bedroom of her family's new East Austin home, shown at right.)*

Thank you for your interest in **S.M.A.R.T. Housing™**. For more information on this policy and other incentives for the new construction of reasonably-priced housing in Austin, please visit our website at http://www.ci.austin.tx.us/ahfc/smart.htm or contact the **City of Austin, Neighborhood Housing and Community Development, S.M.A.R.T. Housing** staff at **(512) 974-3100 or NHCD@ci.austin.tx.us.**

B. S.M.A.R.T. Housing™ Policy Initiative

The **S.M.A.R.T. Housing™** Policy Initiative has the following eight components:

1. It names the Austin Housing Finance Corporation (AHFC) as the lead agency to foster partnerships with neighborhoods and the home building industry to develop, finance,, rehabilitate, relocate, and operate **S.M.A.R.T. Housing™** in the City of Austin.

2. It designates the Neighborhood Housing and Community Development Department (NHCD) as the lead agency on housing policy issues and the single point of contact to facilitate **S.M.A.R.T. Housing™** developments. The single point of contact designation empowers NHCD to assume a leadership role in working with other City departments to assist in the successful development of **S.M.A.R.T. Housing™** projects.

3. AHFC has a right of first refusal for receiving any City-owned surplus property for development as **S.M.A.R.T. Housing™**, except for land with an adopted master plan.

4. It allows full or partial fee waivers for up to 1,500 service units[1] annually in developments in which a portion of units are "reasonably priced" and all units meet **S.M.A.R.T. Housing™** standards. A sliding scale creates incentives for mixed-income developments. A list of fees waived is included in this Guide.

   "Reasonably-priced units" are those units rented or sold to families who earn no more than 80% of median family income[2] and who would spend no more than 30% of their family income on housing, or up to 35% if a household member receives City-approved homebuyer counseling).

A builder provides:	**The City of Austin provides:**
10% S.M.A.R.T.™ Reasonably Priced	25% Fee Waivers & Fast-Track Review
20% S.M.A.R.T.™ Reasonably Priced	50% Fee Waivers & Fast-Track Review
30% S.M.A.R.T.™ Reasonably Priced	75% Fee Waivers & Fast-Track Review
40% S.M.A.R.T.™ Reasonably Priced	100% Fee Waivers & Fast-Track Review

5. Requires NHCD to catalogue opportunities for improvement identified during the review, construction, and inspection of **S.M.A.R.T. Housing™** developments and requires collaboration among city departments in implementing these suggested improvements.

*Shown at left: the interior of the clubhouse at the **Riverside Meadows Apartments**, completed in 2002. This development serves as a unique development model, as the subdivision and site plan reviews were completed and building permits issued in a record 29 days. Generally, a development can be expected to take at least 90 days to receive building permits. The expedited building permits were made possible through special S.M.A.R.T. Housing™ review and advocacy through the development process.*

[1] While a single-family unit is counted as one service unit, a multi-family unit is counted as only a fraction of an service unit. Also, service units within the Robert Mueller Municipal Airport redevelopment do not count towards the annual cap.
[2] Different income standards may apply for certain policy initiatives. See the "Related Policy Initiatives" section.

Compliance for rental units may be monitored in accordance with tax credit or bond rules or state/federal monitoring standards. An increase in an eligible occupant's household income subsequent to original occupancy does not preclude the unit from being counted as one of the "reasonably-priced" units unless this income increase is a result of additional occupants with income moving into the unit.

For single-family or condominium units, staff recommends pricing the "reasonably-priced" homes at no more than $125,000, in order to qualify buyers at or below 80% MFI. (Figure may vary depending on family size, interest rates, and other factors). While it is possible to qualify a family for a more expensive home using down payment assistance, a lower price will facilitate locating qualified families who can afford the home. Also, a lower purchase price will protect the family from increases in property taxes associated with incremental increases in appraisals over time.

Depending on the percentage of the units that will be reasonably priced, development fees are waived according to the sliding scale below, as follows:

A builder provides:	**The City of Austin provides:**
10% S.M.A.R.T.™ Reasonably Priced Units	25% Fee Waivers & Fast-Track Review
20% S.M.A.R.T.™ Reasonably Priced Units	50% Fee Waivers & Fast-Track Review
30% S.M.A.R.T.™ Reasonably Priced Units	75% Fee Waivers & Fast-Track Review
40% S.M.A.R.T.™ Reasonably Priced Units	100% Fee Waivers & Fast-Track Review

Developments in which at least 5-10% of the dwelling units are reasonably-priced and are transferred to a City-approved affordable housing land trust or other similar entity are eligible for 100% fee waivers:

A builder provides:	**The City of Austin provides:**
5% S.M.A.R.T.™ Reasonably Priced **Land Trust** units, located **within** Austin's urban core;	100% Fee Waivers & Fast-Track Review
OR	
10% S.M.A.R.T.™ Reasonably Priced **Land Trust** units, located **outside of** Austin's urban core	100% Fee Waivers & Fast-Track Review

The Owner/Applicant/Developer may be required to execute an agreement and restrictive covenant or other binding restriction on land use that preserves affordability in accordance with the **S.M.A.R.T. Housing™** program. The agreement may include:

- Terms that require a defaulting applicant to pay the otherwise applicable fees;
- Liquidated damages in an amount up to twice the amount of fees waived, being such an amount that will fairly compensate the City for (a) administrative costs incurred; and (b) any breach that results in the loss of reasonably-priced dwelling units during the affordability period.

For more information about available programs (such as Down Payment Assistance or the Housing Smarts homebuyer counseling program) targeted to families who earn 80% of median family income or less, visit the Austin Housing Finance Corporation website at http://www.cityofaustin.org/ahfc. AHFC's programs can make it easier for income-eligible homebuyers to afford homes in Austin.

C. S.M.A.R.T. Housing™ Certification Standards

The **S.M.A.R.T. Housing™** Fee Waiver Initiative involves an application and certification process. **S.M.A.R.T. Housing™** certification is available for the new construction of single-family and multi-family developments that meet the **S.M.A.R.T. Housing™** standards of **safe, mixed-income, accessible, reasonably priced, transit oriented and compliance with Green Building minimum standards**. The following section discusses of each of the criteria for **S.M.A.R.T. Housing™**.

1. Safe

Safe means that the development complies with the Land Development Code and the adopted Building Codes for the City of Austin. For more information on development in Austin visit the City's website at http://www.cityofaustin.org/development.

2. Mixed Income / Reasonably Priced Standards

S.M.A.R.T. Housing™ is a mixed-income strategy to encourage the production of reasonably-priced housing throughout the City. Mixed-income means that the development includes at least 10% "reasonably-priced" housing units and all units meet applicable **S.M.A.R.T. Housing™** standards.

Reasonably-priced means that a percentage of the units in the development must be rented or sold to families who earn no more than **80% of the median family income (MFI)** for the Austin metropolitan statistical area as determined by the NHCD director, and who spend no more than 30% of their family income on housing or up to 35% if a household member receives City-approved homebuyer counseling. Households that comply with other federal, state, or local income eligibility standards also are considered to meet **S.M.A.R.T. Housing™** "reasonably priced" standards.

Some related policy initiatives – including Vertical Mixed Use and CBD/DMU – establish a different maximum income threshold for housing units. For more information, see the Related Policy Initiatives section of this document.

A unit that is occupied by a family that meets the "reasonably priced" standard remains in compliance as long as an eligible family remains in the unit for the duration of the affordability period.

Type of Housing Unit	Affordability Requirement
For "reasonably-priced" **rental** units (single- or multi-family)	Units must be "reasonably-priced" for at least **5 years** (unless another funding source requires a longer affordability period)
For "reasonably-priced" **home-ownership** units (single-family or condominium)	Units must be "reasonably" priced for at least **1 year** (unless another funding source requires a longer affordability period)
City-approved affordable housing **Land Trust** or similar entity	Affordability period to be established by Land Trust.
Other policy initiatives	Some policy initiatives have requirements that exceed **S.M.A.R.T. Housing™** affordability periods, such as the University Neighborhood Overlay and Vertical Mixed Use initiatives, described in greater detail in the Related Policy Initiatives section.
For **all** designated "reasonably-priced" units	Units must be "reasonably-priced" at initial occupancy and for the full affordability period. Failure to meet this requirement will require repayment of waived fees and other penalties.

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